STATE OF SOUTH DAKOTA COUNTY OF MINNEHAHA	) :SS)	IN CIRCUIT COURT SECOND JUDICIAL DISTRICT

CHARLES RUSSELL RHINES, Plaintiff, vs. SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, SECRETARY, SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, and DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY. Defendants.	49CIV19-002940 **NOTICE OF APPEAL** SUPREME COURT STATE OF SOUTH DAKOTA FILED NOV - 1 2019 Clerk

TO: Jason R. Ravnsborg, Attorney General and Paul S. Swedlund, Assistant Attorney General, Attorneys for Defendants South Dakota Department of Corrections, Mike Leidholt, Secretary, South Dakota Department of Corrections, and Darin Young, Warden of the South Dakota State Penitentiary, 1302 East Highway 14, Suite 1, Pierre, SD 57501-8501:

NOTICE IS HEREBY GIVEN that the Plaintiff, Charles Russell Rhines, hereby appeals to the South Dakota Supreme Court the whole of the Order Denying an Application for a Temporary Restraining Order, Preliminary Injunction, and Stay of Execution in the above-entitled matter, which was signed by the Honorable Jon C. Sogn, Judge of the Second Judicial Circuit in and for Minnehaha County on October 31, 2019, with the Notice of Entry of the same being served on Plaintiffs of Courts on October 31, 2019, and from the whole of the record in this action.

Dated this 31st day of October, 2019.

BALLARD SPAHR LLP

By: _____

Daniel R. Fritz
Timothy R. Rahn
101 South Reid Street, Suite 302
Sioux Falls, SD 57103
Telephone: (605) 978-5200
Email: fritzd@ballardspahr.com
rahnt@ballardspahr.com

Attorneys for Charles Russell Rhines

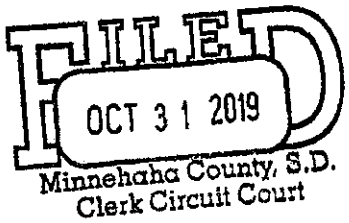
CERTIFICATE OF SERVICE

I, Daniel R. Fritz, hereby certify that on this 31st day of October, 2019, a true and correct copy of the foregoing ***Notice of Appeal*** in the above-entitled matter was provided via first class mail, postage prepaid, and via e-mail to the following named persons at their last known address:

Jason Ravnsborg
Paul S. Swedlund
Attorney General
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Telephone: 605-773-3215
E-mail: Paul.swedlund@state.sd.us
Attorneys for Defendant

BALLARD SPAHR LLP

By: _____
Daniel R. Fritz



STATE OF SOUTH DAKOTA COUNTY OF MINNEHAHA	) :SS)	IN CIRCUIT COURT SECOND JUDICIAL CIRCUIT

CHARLES RUSSELL RHINES, Plaintiff, vs. **SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, SECRETARY, SOUTH DAKOTA DEPARTMENT OF CORRECTIONS,** and **DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY,** Defendants.	49CIV19-002940 **MEMORANDUM OPINION AND ORDER DENYING APPLICATION FOR PRELIMINARY INJUNCTION AND STAY OF EXECUTION** SUPREME COURT STATE OF SOUTH DAKOTA FILED NOV - 1 2019 Clerk

Plaintiff Charles Rhines (Rhines) is scheduled to be executed by lethal injection sometime between November 3-9, 2019, for the murder of Donnivan Schaeffer. Rhines seeks a preliminary injunction and stay of the execution for such duration as necessary to have a full trial on the merits of his complaint alleging that the proposed drug the State intends to use in the lethal injection process, pentobarbital, is not an "ultra-short-acting" barbiturate as required by South Dakota statutes. The State opposes the request, asserting Rhines' claims are barred by res judicata and further that pentobarbital is an ultra-short acting barbiturate as that phrase is used in the statute. The matter came before the Court for hearing on October 29, 2019.

After considering the parties' written submissions, testimony presented at the hearing, the applicable authorities, the record, and oral arguments, the Court denies Rhines' request for a preliminary injunction and stay of execution.

FACTUAL BACKGROUND

On March 8, 1992, the body of Donnivan Schaeffer, an employee of Dig 'Em Donuts in Rapid City, South Dakota, was found in the storeroom of the donut shop. His hands were bound, and he had stab wounds to his abdomen, upper back, and the back of his neck. There was also money missing from the store.

After an investigation, Charles Rhines was charged with third-degree burglary of the store and first-degree murder of Mr. Schaeffer.

A jury trial was held, and on January 22, 1993, the jury found Rhines guilty of these crimes. The jury recommended a sentence of death for the first-degree murder conviction. The trial court entered a judgment and issued a warrant of execution.

Rhines appealed the conviction and sentence to the South Dakota Supreme Court. The South Dakota Supreme Court affirmed the conviction and sentence in an opinion that was issued May 15, 1996. *State v. Rhines, 1996* S.D. 55, 548 N.W.2d 415.

Since that time Rhines has pursued a multitude of suits and appeals, both in the South Dakota state court system, and in the federal court system, including a case in which a decision was issued October 25, 2019, by the South Dakota Supreme Court affirming the dismissal of Rhines' suit challenging a Department of Corrections administrative policy relating to the methods and procedures for carrying out capital

sentences. *Rhines v. South Dakota Department of Corrections*, 2019 S.D. 59, ___ N.W.2d ____.

Rhines is currently scheduled for execution sometime during the week of November 3-9, 2019.

Rhines' request for relief in this case arises out of the South Dakota Legislature's 2007 revisions to South Dakota's death penalty statutes contained in South Dakota Codified Laws Chapters 23A-27A. Prior to the 2007 changes, SDCL 23A-27A-32 read in applicable part:

> The punishment of death shall be inflicted by the intravenous administration of a lethal quantity of an **ultra-short-acting barbiturate** in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice. (*emphasis added*).

The 2007 revisions changed the statute to read in applicable part:

> The punishment of death shall be inflicted by the intravenous injection of a substance or substances in a lethal quantity. The warden, subject to the approval of the secretary of corrections, shall determine the substances and the quantity of substances used for the punishment of death.

At the same time SDCL 23A-27A-32 was revised in 2007, the legislature added a new section, 23A-27A-32.1, which states:

> Any person convicted of a capital offense or sentenced to death prior to July 1, 2007 may choose to be executed in a manner provided in § 23A-27A-32 or in the manner provided by South Dakota law at the time of the person's conviction or sentence. The person shall choose by indicating in writing to the warden not less than seven days prior to the scheduled week of execution the manner of execution chosen. If the person fails or refuses to choose in the time provided under this section, then the person shall be executed as provided in 23A-27A-32.

On October 1, 2019, pursuant to SDCL 23A-27A-32.1, Rhines submitted a "KITE-REQUEST SLIP" addressed to Warden Darin Young in which Rhines elected the method of execution that was in effect at the time that he was sentenced to death. On October 4, 2019, an amended "KITE-REQUEST SLIP" was submitted by Rhines, again addressed to Warden Young, in which Rhines elected the method of execution that was in effect at the time he was sentenced to death, clarifying that the chosen method was pursuant to the two-drug protocol of a lethal dose of an ultra-short-acting barbiturate and chemical paralytic.

On October 15, 2019, attorneys for Rhines sent a letter by e-mail to Warden Young and the Attorney General requesting confirmation that Rhines' requests to be executed by the intravenous administration of a lethal quantity of an ultra-short acting barbiturate would be honored. Rhines' attorneys also requested that the State identify which ultra-short- acting barbiturate would be used to execute Rhines.

Two days later, October 17, 2019, Assistant Attorney General Paul Swedlund, on behalf of the State, sent an e-mail to Rhines' attorneys, stating:

> I am in receipt of your letter regarding Mr. Rhines' request for execution pursuant to the combination of drugs provided by statute at the time of his execution. The DOC will follow the law. The ultra-short-acting barbiturate the State intends to use is pentobarbital.

Five days later, October 22, 2019, Rhines filed this suit against Defendants (hereinafter collectively referred to as the "State") challenging the State's use of pentobarbital. Rhines also filed his application for a preliminary injunction and stay of execution, his brief in support of his application, an affidavit by his attorney, Dan

Fritz, with documents attached being relied upon by Rhines, and an affidavit by Rhines' expert, Craig Stevens, Ph.D. An amended complaint was filed the next day, October 23, 2019.

Because the execution is scheduled for next week, an expedited hearing was held October 29, 2019. Prior to the hearing, the State submitted a brief opposing Rhines' requests. The State also submitted documents in support of their argument, including a Declaration of Joseph Antognini, M.D.

At the hearing, the parties presented their respective arguments. Rhines also called his expert, Craig Stevens, Ph.D as a witness. Because of the expedited schedule, the State's expert, Joseph Antognini, M.D., was not available to testify, but his affidavit had previously been submitted.

OVERVIEW

In this suit Rhines is not challenging whether he received a fair trial. He is not challenging his conviction for first-degree murder. He is not challenging his sentence of death by lethal injection. He is not challenging whether death by lethal injection violates the Eighth Amendment prohibition against cruel and unusual punishment. He is challenging whether pentobarbital is an ultra-short-acting barbiturate as that phrase was used in SDCL 23A-27A-32.

Barbiturates are a drug group derived from barbituric acid. Barbiturates depress the central nervous system and have long been used as sedatives and hypnotics. Depending on the type of barbiturate and the size of the dosage, the drug can be used to

reduce anxiety, help a person fall asleep, or to render a person unconscious. Depending on the type and the dose, it can also be lethal.

In the two-drug protocol followed by South Dakota in executing a death sentence by lethal injection, a large dose of the barbiturate is administered intravenously. This is intended to cause unconsciousness in less than a minute. After the prisoner is unconscious the prisoner is no longer aware of pain or distress. As the drug continues to affect the body, the respiratory system is suppressed, the brain is deprived of oxygen, and cardiac activity ceases. The barbiturate by itself is sufficient to cause death. To ensure death, however, after the prisoner is unconscious, a paralytic agent is administered intravenously. This further inhibits muscle action, including ceasing cardiac activity.

Rhines agrees this case does not involve a challenge to the paralytic agent the State intends to use, but only a challenge to the use of pentobarbital as the barbiturate the State intends to administer. In support of his challenge, Rhines retained Dr. Craig Stevens. Dr. Stevens has a Ph.D. in Pharmacology and is currently a Professor of Pharmacology at Oklahoma State University. Dr. Stevens submitted an affidavit and testified at the October 29, 2019, hearing. In his opinion, barbiturates are divided into four distinct categories: ultra-short acting, short-acting, intermediate-acting, and long-acting. In his affidavit he states the classifications refer to the time of onset and duration of the drugs' effects. He testified that, the faster the onset (time required for the drug to take effect), the shorter the duration (time it takes for the drug to wear off). During his testimony at the hearing, he added that the classifications also relate to the drugs' lipid solubility.

In Dr. Stevens' opinion, there are two "ultra-short-acting" barbiturates, sodium thiopental and methohexital. Thiopental, the most frequently used ultra-short-acting barbiturate, is used in short-duration surgeries. The onset of anesthesia is usually within 10 to 30 seconds, because thiopental is so lipid soluble that it rapidly enters the brain.

Dr. Stevens also opines that pentobarbital is classified as a short-acting barbiturate, not an ultra-short-acting barbiturate. In support of his opinion, Dr. Stevens references various publications that place pentobarbital in the class of fast-acting barbiturates. He noted that even the package insert for Nembutal Sodium Solution (a brand-name pentobarbital sodium injection) states it is a short-acting barbiturate.

Rhines also relies heavily on a Montana state court decision, *Smith v. State of Montana, Dept. of Corr.*, 2015 WL 5827252 (Mont. Dist. 2015). The trial judge in *Smith*, in interpreting a statute similar to SDCL 23A-27A-32, ruled that pentobarbital is not an ultra-fast-acting barbiturate and enjoined the state from using it in the state's lethal injection protocol. *Id.* It does not appear the *Smith* decision was appealed to the Montana Supreme Court.

The State's expert on this issue is Joseph Antognini, M.D. Dr. Antognini is board certified in anesthesiology and his experience includes being Director of Peri-operative Services at the University of California Davis Health; and a Professor of Anesthesiology and Pain Medicine and Professor of Neurobiology, Physiology, and Behavior at University of California, Davis.

In his Declaration, Dr. Antognini explains that barbiturates can be classified as "ultra-short acting", "ultra-fast acting", "short acting," and "fast acting." These

classifications, however, are not absolute and change depending on the size of the dosage of the drug and whether it is administered orally (a pill) or intravenously.

Importantly, Dr. Antognini explains that the terms "ultra-short acting" and "short-acting" refer to the duration of action of the drug, that is, the length of time the drug has its intended effect (i.e., how long it takes to wear off). Dr. Antognini further explains that "ultra-fast acting" and "fast-acting" refers to the onset of action, in other words the length of time it takes for the effect of the drug to occur.

Exhibit C attached to Dr. Antognini's Declaration shows that a clinical intravenous dosage of thiopental takes effect in 10-40 seconds, while a clinical dosage of pentobarbital takes effect in one minute. In lethal execution dosages, however, while thiopental intravenously still takes effect in 10-40 seconds, pentobarbital takes effect in 20-30 seconds. Accordingly, in lethal execution dosages, pentobarbital's onset may take effect more quickly than thiopental.

In Dr. Antognini's opinion, pentobarbital administered intravenously in the lethal dose the State intends to use in Rhines' execution, will cause Rhines to be unconscious within 20-30 seconds after the initiation of the infusion. This is consistent with the time it would take for Rhines to be unconscious after initiation of an infusion of thiopental (10-40 seconds). Accordingly, pentobarbital is consistent with the classification of an ultra-fast acting/ultra-short acting barbiturate.

Further, in lethal doses, the duration of the drug, whether pentobarbital or thiopental, is meaningless as the inmate will die prior to the time the drug's effects cease. The State argues that it makes no sense and would lead to an absurd result to think that

the legislature was requiring use of a drug, the effects of which would wear off quickly (a drug with a short duration). The drug must be of such duration that its effects extend beyond the time of death. Instead, the State asserts it does make sense that the legislature was referring to a drug that induces a very quick transition from consciousness to unconsciousness. In a lethal intravenous dosage, the transition from consciousness to unconsciousness is virtually the same whether it is thiopental or pentobarbital, and, in fact, may be faster with pentobarbital.

PRELIMINARY INJUNCTION STANDARDS

SDCL 15-6-65 and SDCL Chapter 21-8 confirm that courts have the authority to issue preliminary and permanent injunctions. Whether a preliminary injunction should be issued involves the consideration of four factors, namely: (1) the threat of irreparable harm to the movant; (2) the balance of equities between the parties; (3) the probability that the movant will succeed on the merits; and (4) the public interest. *Dataphase Systems, Inc. v. CL Systems, Inc.*, 640 F.2d 109, 113 (8th Cir. 1981) (en banc); *Hedlund v. River Bluff Estates, LLC*, 2018 S.D. 20, ¶ 15, 908 N.W.2d 766, 771; *Dacy v. Gors*, 471 N.W.2d 576, 579 (S.D. 1991). No single factor is determinative in deciding whether to issue a preliminary injunction. *Dataphase*, 640 F.2d at 113.

Irreparable Harm to the Movant

Death, of course, cannot be undone. Rhines, however, is not asserting in this suit that he should not be put to death by lethal injection. Instead, he asserts that the irreparable harm he will suffer is being deprived of his right to be executed in the manner provided for by South Dakota law, more specifically by the administration of lethal doses

of an ultra-short-acting barbiturate in combination with a paralytic agent. Rhines asserts the only barbiturates that qualify as ultra-short-acting barbiturates are thiopental and methohexital.

The State counters that there is no irreparable harm to Rhines because in lethal doses pentobarbital is an ultra-short-acting barbiturate as that phrase is used in SDCL 23A-27A-32. Further, the effect of pentobarbital in lethal doses is not materially different from the effect of thiopental, and in some circumstances, pentobarbital induces unconsciousness faster than thiopental.

In considering this factor, I find it is neutral, not favoring Rhines or the State.

Balance of Equities Between the Parties

Rhines asserts the harm to the State is a minimal incremental delay and the administrative inconvenience of seeking another execution warrant. Rhines further cites to *Bucklew v. Precythe*,139 S.Ct. 1112, 1146 (2019), for the proposition that "the equities in a death penalty case will almost always favor the prisoner so long as he or she can show a reasonable probability of success on the merits."

The State counters with its own quote from *Bucklew*, that stays of execution "should be the extreme exception, not the norm." *Bucklew*, 139 S.Ct. at 1134. The State has a strong interest in enforcing its criminal judgments. *Hill v. McDonough*, 547 U.S. 573, 584 (2006). In addition, victims of crime (in this case the family of Donnivan Schaeffer) "have an important interest in the timely enforcement of a sentence." *Id.*

As stated in *Nelson v. Campbell*, 541 U.S. 637, 650 (2004), "[g]iven the state's significant interest in enforcing its criminal judgments, there is a strong equitable

presumption against the grant of a stay where a claim could have been brought at such a time as to allow consideration of the merits without requiring entry of a stay."

In *Ledford v. Comm'r, Georgia Dep't of Corr.*, 856 F.3d 1312, 1319-20 (11th Cir. 2017), the court denied a stay even though the inmate's claims were not necessarily barred by the statute of limitations. The court reasoned that the inmate had not been timely in waiting until five days before his execution to raise his claim. *Id.*

In *Jones v. Allen*, 485 F.3d 635 (11th Cir. 2007) an inmate facing imminent execution filed a last-minute challenge to Alabama's execution protocol, which had been adopted four years earlier. The Allen court concluded that the inmate's delay "leaves little doubt that the real purpose behind his claim is to seek a delay of his execution, not merely to effect an alteration of the manner in which it is carried out." *Jones*, 485 F.3d at 640.

In considering the equities in this matter, it is highly doubtful that the real purpose of this suit is Rhines' desire to die by the use of thiopental instead of pentobarbital as the barbiturate used in the two-drug protocol. Instead, the real purpose behind his claim is likely to seek a delay of his execution.

I find that the balance of equities between the parties favors the State.

Public Interest

The public interests in this matter are similar to the balance of equities between the parties, with the additional factor of the public's interest in its citizens and public officials complying with the laws passed by our legislature. The public has a strong interest in making sure the State complies with laws passed by our legislature. This interest is

magnified when the State is carrying out the ultimate criminal penalty—death. Whether this factor favors the State or Rhines, however, depends in large part on this court's findings on the probability of Rhines being successful on the merits of his challenge.

Probability that Movant Will Succeed on the Merits

In this case, the most significant factor in determining whether to grant Rhines' request for an injunction and stay of execution is the probability of Rhines succeeding on the merits of his claim. As stated in Hill, this requires Rhines to show "a significant possibility of success on the merits." *Hill*, 547 U.S. at 584. To determine this, the court must first address the issue of whether Rhines' suit is barred by the doctrine of res judicata.

Res Judicata

The State argues that Rhines' current claims are barred by res judicata. It argues that Rhines could have and should have raised this challenge eight years ago rather than waiting until less than two weeks before his execution is scheduled. The federal courts have held

> "A court considering a stay must ... apply 'a strong equitable presumption against the grant of a stay where a claim could have been brought at such a time as to allow consideration of the merits without requiring entry of a stay.'" *Hill v. McDonough*, 547 U.S. 573, 584, 126 S.Ct. 2096, 165 L.Ed.2d 44 (2006) (quoting *Nelson v. Campbell*, 541 U.S. 637, 650, 124 S.Ct. 2117, 158 L.Ed.2d 924 (2004)).

McGehee v. Hutchinson, 854 F.3d 488, 491 (8th Cir.), *cert. denied*, 137 S. Ct. 1275, 197 (2017).

The 2007 additions to SDCL 23A-27A-32 allow the warden to determine the substances and quantity of substances used for the punishment of death. In 2008, Rhines

amended his pending habeas petition in Pennington County (51 CIV 02-924) to also include a complaint for declaratory and injunctive relief. The declaratory and injunctive relief sought was in response to the statutory language in 23A-27A-32. Rhines' requested relief included: (1) a declaration that an execution carried out by means of the two drug cocktail provided in SDCL 23A-27A-32 in effect at the time of his conviction constitutes cruel and unusual punishment in violation of the South Dakota and United States Constitutions, as well as deprives him of his right to due process of law, and is therefore unconstitutional; and (2) a declaration that SDCL 23A-27A-32, as presently codified, and as applied to Rhines, constitutes an unconstitutional bill of attainder and an unconstitutional ex post facto law and deprives him of his right to due process of the law.

In August 2010, following the changes in 2007 to the statute and the United States Supreme Court decision in *Baze v. Rees,* 553 U.S. 35, the State revised its existing execution policy and protocol ("the protocol"). The protocol used the same three-drug protocol approved in *Baze.* In response to emerging judicial acceptance of pentobarbital as an execution anesthetic, the State again modified the protocol in October of 2011 to also provide for execution via a 1-drug, pentobarbital protocol for all prospective executions. After the adoption of the revised protocol, Rhines was served with notice of the protocol on October 21, 2011. Exhibit 1 attached to the State's brief in this matter is the notice and protocol.

The protocol included a policy on the substances and quantity of substances to be used for executions. The protocol identified the contents of the syringes for 3-Drug, 2-Drug, and 1-Drug executions. With regard to the barbiturates used for executions, the

protocol identified that either sodium thiopental *or* pentobarbital would be used. Importantly, following the charts describing the drugs to be utilized in executions, paragraph 4 on page 3 stated:

> Any person sentenced to death prior to July 1, 2007, may choose to be executed by the 3- or 1-Drug protocol set forth in this document, provided the SDDOC possess the necessary substance or substances for the method chosen at the time scheduled for the inmate's execution, or in the manner provided by South Dakota law at the time of the person's conviction *(2-Drug protocol set forth in this document).*[1]

After notice of the protocol in October of 2011, Petitioner made no further amendments to his petition. A court trial was held over a year later in December of 2012. During this period, discovery ensued and experts were deposed. Experts were deposed largely on the subject of a 3-drug protocol and whether it violates the Eighth Amendment; however, pentobarbital was a subject of frequent questioning. On February 27, 2013, Judge Trimble issued an Order denying Petitioner's claims, which decision included discussions of the use of pentobarbital. Both the circuit court and the South Dakota Supreme Court denied a Certificate of Probable Cause.

"Res judicata precludes relitigation of issues previously heard and resolved; it also bars prosecution of claims that *could have been raised in the earlier proceeding*, even though not actually raised." *Hobart v. Ferebee*, 2009 S.D. 101, ¶ 30, 776 N.W.2d 67, 76 (emphasis added). The South Dakota Supreme Court has also advised that:

> Res judicata consists of two preclusion concepts: issue preclusion and claim preclusion." *Am. Family Ins. Grp. v. Robnik*, 2010 S.D. 69, ¶ 15, 787 N.W.2d

[1] Exhibit 1 attached to State's brief in this matter.

> 768, 774. "Issue preclusion refers to the effect of a judgment in foreclosing relitigation of a matter that has been litigated and decided," and "also is referred to as direct or collateral estoppel." *Id.* (quoting *Migra v. Warren City Sch. Dist. Bd. of Educ.*, 465 U.S. 75, 77 n.1, 104 S.Ct. 892, 894 n.1, 79 L.Ed.2d 56). "Claim preclusion refers to the effect of a judgment in foreclosing litigation of a matter that never has been litigated, because of a determination that it should have been advanced in an earlier suit...." Id (quoting *Migra*, 465 U.S. at 77 n.1, 104 S.Ct. at 894 n.1). "To invoke the doctrine of res judicata, four elements must be established: (1) a final judgment on the merits in an earlier action; (2) the question decided in the former action is the same as the one decided in the present action; (3) the parties are the same; and (4) there was a full and fair opportunity to litigate the issues in the prior proceeding. *People ex rel. L.S.*, 2006 S.D. 76, ¶ 22, 721 N.W.2d 83, 89–90.

Estate of Johnson ex rel Johnson v. Weber, 2017 S.D. 36, ¶ 41, 898 N.W.2d 718, 733, reh'g denied (July 28, 2017).

When examining a res judicata argument, a court is "not restricted to whether the specific question posed by the parties in both actions was the same or whether the legal question posed by the nature of the suit was the same." *Farmer v. S. Dakota Dep't of Revenue & Regulation,* 2010 S.D. 35, ¶ 10, 781 N.W.2d 655, 660. Instead, "[a] cause of action is comprised of the facts which give rise to, or establish, the right a party seeks to enforce." *Merchants State Bank v. Light*, 458 N.W.2d 792, 794 (citing *Bank of Hoven v. Rausch,* 449 N.W.2d 263, 266)). "Essentially, it is the underlying facts which give rise to the cause of action that must determine the propriety or necessity of presenting a specific issue within the prior proceedings." *Lewton v. McCauley*, 460 N.W.2d 728, 731 (S.D. 1990).

This Court considers the cases of *Lewton* and *Farmer* as instructive in understanding res judicata. In both cases, each claim arose out of factually similar

scenarios. In *Farmer,* both claims arose out of the same act: failure to pay taxes. Because both claims came from the same transaction and one already had a final judgment, the Court found that res judicata applied. Similarly, in *Lewton*, both claims arose out of the same scenario: Lewton's bankruptcy. However, the difference in *Lewton* focuses on whether the subsequent claim even existed at the time the first claim was brought. While the first claim concerned the cattle and the contract between the parties, the amount of rent owed is certainly related to both; however, the second claim could not have been brought at that time because the issue of the amount of rent owed derived from the first court's decision. *Lewton* demonstrates that while the two claims may arise out of the same factual scenario, the second claim must have existed at the time if a party is going to assert that the claim should have been brought pursuant to the doctrine of res judicata. *Farmer*, on the other hand, demonstrates two separate claims related to the same action. If the party had a fair opportunity to litigate the second claim during the proceedings of the first claim, res judicata precludes the subsequent action.

Rhines had a full and fair opportunity to challenge the protocol's compliance with the statutes in his 2011 Pennington County action. Rhines was put on notice of the State's intent to use pentobarbital when Rhines was served with a copy of the protocol on October 24, 2011. The protocol contained explicit notice of the State's intention to use pentobarbital in the 2-drug protocol that Rhines ultimately elected. Rhine's then-pending complaint for declaratory and injunctive relief contained general arguments that the protocol denied him due process that he felt he was entitled to under SDCL 23A-27A-32 and opposed the "two chemicals" that would be used. Experts in the case frequently

discussed the use of pentobarbital in the execution. In a deposition taken December 1, 2012, one of Rhine's own experts, Dr. Mark Heath, testified at length about the use of pentobarbital. A copy of Dr. Heath's deposition is attached as Exhibit 8 to the State's brief in this case. Examples of Dr. Heath's discussion of pentobarbital includes testimony on page 21 of the deposition transcript that "pentobarbital is typically put into the short or medium-acting categories." Further on page 22 he discusses the differences between thiopental and pentobarbital. On page 22 he is asked whether he has "reviewed the protocol and have an understanding at least a paper level of how the State of South Dakota intends to use pentobarbital as a lethal injection drug", to which Dr. Heath replies "Yes."

Additionally, during the litigation of Rhine's method of execution claims, the State had an expert opine on whether a 2-drug protocol of pentobarbital and a paralytic agent would provide a painless and humane death for an inmate. Therefore, not only was Rhines put on notice in October of 2011, but he was also put on notice, through the deposition of the experts, of the State's intent to use pentobarbital in carrying out the 2-drug protocol.

Because Rhines was aware of the State's intent to use pentobarbital in its 2-drug protocol, Rhines could have and should have brought a specific challenge to the use of pentobarbital as part of his then-pending complaint for declaratory and injunctive relief eight years ago. While Rhines challenged many other aspects with regard to 23A-27A-32, Rhines failed to present any argument as to pentobarbital when the protocol explicitly listed pentobarbital as one of two drugs that could be administered in the 2-drug protocol.

Because the declaratory action sought in the prior litigation specifically talked about both drugs, the protocol, and the statute, Rhines was bound to bring the claims at that time, not eight years later and just days before his scheduled execution.

The State further asserts that this was a strategic attempt to stay his execution because he also could have asserted the claims in his APA challenge in August of 2018 but did not do so. *See Rhines v. South Dakota Dept. of Corrections*, 2019 S.D. 59, __ N.W.2d __.

At the hearing, Rhines asserted that the claims are not barred by res judicata because the claim was not ripe until the State's non-compliance with the statute. Rhines also argues that the claims asserted are not the same under a res judicata analysis. As to the ripeness, Rhines argues that SDCL 23A-27A-32.1 provides him with a right to elect which method of execution to administer up until 7 days prior to the scheduled week of execution. Thus, the choice to elect which method of execution gives him authority to wait to choose his manner of execution and no issue existed until the State notified him that the barbiturate to be used at his execution would be pentobarbital.

This court finds that argument unpersuasive. As discussed above, Rhines initially filed a habeas petition on unrelated grounds in Pennington County in 2002. Following the amendments to the statutes in 2007, Rhines amended his petition in 2008 seeking declaratory and injunctive relief based on the constitutionality of SDCL 23A-27A-32 before and after the amendments. Many of Rhines' claims related to the changes in the statutes and the lack of specificity of what kind of drugs would be utilized in an execution. The protocol was issued in 2010 and revised in 2011 and provided specific

explanations of the types of drugs the State would utilize, among others. Further, the protocol in paragraph 4 on page 3 made it clear that the 2-drug protocol was exclusively applied to inmates sentenced prior to 2007, such as Rhines. Rhines was put on notice of the adoption and revision of the protocol. The protocol specifically referenced pentobarbital as one of two barbiturates to be used in a 3-, 2-, or 1- drug execution. Rhines had this information and made no amendments to his current declaratory and injunctive requests in his petition. Unlike *Lewton,* Rhines' cause of action existed at the time his Pennington County declaratory judgment action was pending. Rhines had a "full and fair opportunity to litigate" the validity of whether the protocol was in compliance with the language under SDCL 23A-27A-32 at that time.

As to Rhines' ripeness argument, SDCL 21-24-1 permits the declaration of legal rights or relations before an actual injury occurs.[2] When seeking declaratory relief, there are four jurisdictional requirements that must be established:

> (1) There must exist a justiciable controversy; that is to say, a controversy in which a claim of right is asserted against one who has an interest in contesting it; (2) the controversy must be between persons whose interests are adverse; (3) the party seeking declaratory relief must have a legal interest in the controversy, that is to say, a legally protectible interest; and (4) the issue involved in the controversy must be ripe for judicial determination.

Boever v. South Dakota Bd. Of Accountancy, 526 N.W.2d 747, 750 (quoting *Danforth v. City of Yankton*, 25 N.W.2d 50, 53 (S.D. 1946). "Ripeness involves the timing of judicial

[2] SDCL 21-24-1 provides: Courts of record within their respective jurisdictions shall have power to declare rights, status, and other legal relations whether or not further relief is or could be claimed. No action or proceeding shall be open to objection on the ground that a declaratory judgment or decree is prayed for. The declaration may be either affirmative or negative in form and effect; and such declaration shall have the force and effect of a final judgment or decree.

review and the principle that '[j]udicial machinery should be conserved for problems which are real and present or imminent, not squandered on problems which are abstract or hypothetical or remote.'" *Id.* (quoting *Gottschalk v. Hegg*, 228 N.W.2d 640, 643–44 (S.D.1975) (quoting Davis, *Administrative Law Treatise*, § 21.01)).

In *Boever v. South Dakota Bd. of Accountancy*, Boever was a certified public accountant licensed under SDCL ch 36-20A. 526 N.W.2d 747, 748 (S.D. 1995). In order to maintain his licensure, Boever, as well as all CPAs, were subjected to quality reviews every three years pursuant to statute. *Id.* After a statutorily mandated quality review was conducted, the South Dakota Department of Legislative Audit filed a complaint against Boever. *Id.* at 749. In an agreement to terminate disciplinary action against Boever, he agreed to undergo another quality review. *Id.* Shortly after his agreement, Boever filed a complaint in circuit court seeking a declaration at the review and disciplinary statutes were unconstitutional due to vagueness and lack of sufficient standards to constitute a lawful delegation of legislative powers. *Id.* The trial court found that the claims were not ripe because there was "no present controversy." *Id.*

On appeal, the South Dakota Supreme Court affirmed and reversed in part. *Id.* at 751. In the analysis, the Court affirmed the trial court's conclusion that there was no present controversy with regard to the disciplinary statutes. *Id.* at 750. With regard to the quality review statutes, though, the Court reversed and remanded the trial court's decision based on the statutory language that required quality reviews every three years. *Id.* The language there provides for future quality reviews that are "imminent and

inevitable" because a review was bound to happen in the future. *Id.* The court therefore found that the constitutional challenge to the statute was ripe for review. *Id.*

Rhines was lawfully sentenced to death. Like the quality reviews statutes in *Boever*, Rhines execution was "imminent and inevitable." The statutes and protocol undoubtedly applied to Rhines in 2011 as much as it does now in 2019. The issue was ripe in 2011 when the protocol was issued because the protocol explicitly referenced pentobarbital as one of two barbiturates to be used in executions. Further, in his previous litigation in 2011, Rhines specifically referenced both drugs listed in the protocol in his declaratory action. Furthermore, in 2011, when the protocol was issued, the issue now presented was not abstract, hypothetical, or remote at that time.

The State is correct in its assertion that Rhines challenged the exact protocol in 2011 as he is challenging now. The protocol clearly indicated that the State would administer a barbiturate of either sodium thiopental or pentobarbital. Rhines places emphasis on the word *or* and argues that because he did not know which drug the State would use at his execution, the issue was not ripe. However, Rhines argument fails because the issue of the constitutionality of the 3-drug protocol was ripe for judicial review as was demonstrated by the Rhines' declaratory and injunctive action in 2011. Applying Rhines' logic, because the State or Rhines could have elected alternate methods of execution, his original claims in 2011 would also not have been ripe for adjudication. Therefore, the question of whether pentobarbital, as listed in the protocol and discussed in the habeas petition, fits within the statutory definition of an ultra-short acting barbiturate would be ripe as well.

The Eighth Circuit's decision in *McGehee v. Hutchinson*, in another death penalty case challenging the drug cocktails, also supports this court's decision. "Whether or not the claim technically is barred by doctrine of res judicata or collateral estoppel, the prisoners' use of "piecemeal litigation" and dilatory tactics is sufficient reason by itself to deny a stay." *McGehee v. Hutchinson*, 854 F.3d 488, 492-92 (8th Cir.), *cert. denied*, 137 S. Ct. 1275, 197 L.Ed. 2d 746 (2017) (quoting *Hill v. McDonough*, 547 U.S. at 584-85, 126 S.Ct. 2096). "Both the State and the victims of crime have an important interest in the timely enforcement of a sentence." *Hill v. McDonough*, 547 U.S. 573, 584, 126 S. Ct. 2096, 2104, 165 L. Ed. 2d 44 (2006) (quoting *Calderon v. Thompson*, 523 U.S. 538, 556, 118 S.Ct. 1489, 140 L.Ed.2d 728 (1998)).

The Court finds there is a strong probability that Rhines' claims are barred by res judicata, and further finds there is not a significant possibility that Rhines will be successful on the merits of the res judicata issue. Because of the court's finding on the res judicata issue, it does not need to, and does not, make a finding regarding whether pentobarbital is an ultra-short acting barbiturate as that phrase is used in SDCL 23A-27A-32.

ORDER

Based upon the foregoing, Rhines' request for a temporary restraining order and preliminary injunction is denied. Rhines' request for a stay of execution is also denied.

Dated this 31st day of October, 2019.

BY THE COURT:

Jon C. Sogn
Circuit Court Judge

ATTEST:
Angelia M. Gries, Clerk of Court
By: _____
Deputy Clerk

FILED
OCT 31 2019
Minnehaha County, S.D.
Clerk Circuit Court

STATE OF SOUTH DAKOTA	)	IN CIRCUIT COURT
	:SS	
COUNTY OF MINNEHAHA	)	SECOND JUDICIAL DISTRICT

CHARLES RUSSELL RHINES, Plaintiff, v. SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, SECRETARY, SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, and DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY, Defendant	49CIV19-002940 **THIS IS A CAPITAL CASE EXECUTION SET FOR BETWEEN NOVEMBER 3, 2019 AND NOVEMBER 9, 2019**

NOTICE OF ENTRY OF ORDER

Plaintiff, Charles Russell Rhines through his counsel, Daniel R. Fritz, hereby serve notice of entry of the attached order in the above-captioned matter denying Plaintiffs' Application for Preliminary Injunction and Stay of Execution. Counsel certifies that on the date below he served a true and correct certified copy of the order on Paul S. Swedlund via e-mail to paul.swedlund@state.sd.us and by first class U.S. Mail to 1302 East Highway 14, Suite 1, Pierre, SD 57501.

Dated this 1st day of November, 2019.

BALLARD SPAHR LLP

By: /s/ Daniel R. Fritz

Daniel R. Fritz (2390)
Timothy R. Rahn (4871)
101 South Reid Street, Suite 302
Sioux Falls, SD 57103
Telephone: (605) 978-5200

Email: fritzd@ballardspahr.com
rahnt@ballardspahr.com

IN THE SUPREME COURT
STATE OF SOUTH DAKOTA

CHARLES RUSSELL RHINES, Plaintiffs vs. SOUTH DAKOTA DEPARTMENT OF CORRECTIONS and MIKE LEIDHOLT, Secretary, South Dakota Department of Corrections, and DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY, Defendants.	App. No. 49CIV19 2940 **APPELLANT'S DOCKETING STATEMENT** SUPREME COURT STATE OF SOUTH DAKOTA FILED NOV - 1 2019 Shirley A Jameson-Legg Clerk

Charles Russell Rhines, by and through his counsel of record, hereby submit Appellants' Docketing Statement as follows:

Section A.

TRIAL COURT

1. The circuit court from which the appeal is taken: **Second Judicial Circuit.**

2. The county in which the action is venued at the time of the appeal: **Minnehaha County.**

3. The name of the trial judge who entered the decision appealed: **The Honorable Jon C. Sogn.**

PARTIES AND ATTORNEYS

4. Identify each party presently of record and the name, address, and phone number of the attorney for each party:

Charles Russell Rhines

Daniel R. Fritz (2390)
Timothy R. Rahn (4871)
Ballard Spahr LLP
101 S. Reid St., Suite 302
Sioux Falls, South Dakota 57103
(605) 978-5205

Caroline Heller
Greenberg Traurig, LLP
200 Park Avenue
New York, NY 10166
(212) 801-2165

South Dakota Department of Corrections and Mike Leidholt, Secretary, South Dakota Department of Corrections

Paul S. Swedlund
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Telephone: 605-773-3215
Paul.swedlund@state.sd.us

Section B.

TIMELINESS OF APPEAL

1. The date the judgment or order appeal from was signed and filed by the trial court: **Signed and filed on October 31, 2019.**

2. The date notice of entry of the judgment or order was served on each party: **October 31, 2019.**

3. State whether either of the following motions was made:

   a. Motion for judgment n.o.v., SDCL 15-6-50(b): _____Yes __X__No

   b. Motion for new trial, SDCL 15-6-59: _____Yes __X__No

NATURE AND DISPOSITION OF CLAIMS

4. State the nature of each party's separate claims, counterclaims or cross-claims and the trial court's disposition of each claim (e.g., court trial, jury verdict, summary judgment, default judgment, agency decision, affirmed/reversed, etc.).

On October 22, 2019, Rhines filed an action in the Circuit Court for the Second Judicial Circuit seeking injunctive and declaratory relief to enforce his statutory right under South Dakota law to be executed by the manner he chose. Rhines's Complaint alleges four causes of action. The First Cause of Action, Violation of the Right to Choose the Manner of Execution Provided by Law at the Time of Sentence, alleges that, in enacting SDCL § 23A-27A-32.1, the State of South Dakota created a state statutory right that entitles Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence. The manner of

execution provided by South Dakota law at the time of Rhines's conviction and sentence was, in relevant part, "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch 181, codified at SDCL § 23A-27A-32 (1984.).

The Second Cause of Action, Deprivation of Due Process, alleged that in enacting SDCL § 23A-27A-32.1, the State of South Dakota created life and liberty interests that entitle Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence. (Compl. ¶¶ 51-54.) Rhines's life and liberty interests in being executed in this manner are protected by the Due Process Clause of the Fourteenth Amendment of the United States Constitution and the Due Process Clause of Article Six, Section 2 of the South Dakota Constitution.

The Third Cause of Action, Injunctive Relief, and the Fourth Cause of Action, Declaratory Judgment, sought injunctive and declaratory relief: (1) Staying Rhines's execution pending adjudication of this action; (2) declaring that pentobarbital is neither an ultra-short-acting barbiturate nor a chemical paralytic agent; (3) enjoining the DOC from executing Rhines with pentobarbital; and (4) ordering that the DOC shall execute Rhines only with an ultra-short-acting barbiturate, to wit, sodium methohexital or sodium thiopental, in combination with a chemical paralytic agent.

In light of Mr. Rhines's scheduled execution, he also filed an application for a preliminary injunction, temporary restraining order, or stay of execution to prohibit the DOC from executing him with pentobarbital and to order that the DOC shall execute Rhines only with an ultra-short-acting barbiturate in combination with a chemical paralytic agent.

On October 31, 2019 the Honorable Jon Sogn entered an Order denying the application for preliminary injunction and stay of execution.

5. Appeals of right may be taken only from final, appealable orders. *See* SDCL 15-26A-3 and -4.

   a. Did the trial court enter a final judgment or order that resolves all of each party's individual claims, counterclaims, or cross-claims?

      ___Yes __X__No

      *to the extent this is not a final order, and instead only an order denying preliminary injunction and stay of execution, this Court has jurisdiction under SDCL 15-26A-3(5). *See Hedlund v. River Bluff Estates LLC*, 2018 S.D. 20 (S.D. 2018)

   b. If the trial court did not enter a final judgment or order as to each party's individual claims, counterclaims, or cross-claims, did the trial court make a determination and direct entry of judgment pursuant to SDCL 15-6-54(b)?

      ___Yes __X_No

6. State each issue intended to be presented for review. (Parties will not be bound by these statements)

a. Whether the trial court erred in denying application for preliminary injunction and stay of execution?

b. Whether the trial court erred in concluding the claims are barred by *res judicata*?

c. Whether Mr. Rhines has shown a strong likelihood of success on the merits of his causes of action?

7. Attach a copy of any memorandum opinion and findings of fact or conclusions of law supporting the judgment or order appealed from. *See* SDCL 15-26A-4(2).

a. *See* attached Memorandum Opinion and Order Denying Application for Preliminary Injunction and Stay of Execution

Dated at Sioux Falls, South Dakota, this 31day of October, 2019.

BALLARD SPAHR LLP

By: _____

Daniel R. Fritz
Timothy R. Rahn
101 South Reid Street, Suite 302
Sioux Falls, SD 57103
Telephone: (605) 978-5200
Facsimile: (605) 978-5225
Email: fritzd@ballardspahr.com
rahnt@ballardspahr.com
Attorneys for Charles Russell Rhines

STATE OF SOUTH DAKOTA	)	IN CIRCUIT COURT
	:SS	
COUNTY OF MINNEHAHA	)	SECOND JUDICIAL CIRCUIT

CHARLES RUSSELL RHINES, Petitioner vs. SOUTH DAKOTA DEPARTMENT OF CORRECTIONS and MIKE LEIDHOLT, Secretary, South Dakota Department of Corrections, and DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY, Respondent.	49CIV19-002940 **CERTIFICATE OF SERVICE**

The undersigned hereby certifies that on the 31st day of October, 2019, a true and correct copy of *Appellant's Docketing Statement* in the above-entitled matter, was served via U.S. Mail and electronic mail to the following named persons:

Paul S. Swedlund
Assistant Attorney General
1302 East Highway 14 Suite 1
Pierre, South Dakota 57501-8501
Email: Paul.swedlund@state.sd.us
Attorneys for Defendant

BALLARD SPAHR LLP

/s/ Daniel R. Fritz
Daniel R. Fritz
101 South Reid Street, Suite 302
Sioux Falls, SD 57103
Telephone: (605) 978-5200
E-Mail: fritzd@ballardspahr.com
Attorneys for Plaintiff

FILED
OCT 31 2019
Minnehaha County, S.D.
Clerk Circuit Court

STATE OF SOUTH DAKOTA } ss
COUNTY OF MINNEHAHA }
I hereby certify that the foregoing instrument is a true and correct copy of the original as the same appears on record in my office.
OCT 31 2019
Clerk of Courts, Minnehaha County
By _____ Deputy

IN THE SUPREME COURT
OF THE
STATE OF SOUTH DAKOTA

CHARLES RUSSELL RHINES — Plaintiff and Appellant,

v.

SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, Secretary, South Dakota Department of Corrections, and DARIN YOUNG in his capacity as Warden of the South Dakota State Penitentiary — Defendant and Appellees.

App. No. 29166
49CIV19-002940

Appeal from the Circuit Court, Second Judicial Circuit,
Minnehaha County, South Dakota

The Honorable Jon C. Sogn

MOTION FOR STAY OF EXECUTION

Daniel R. Fritz
Timothy R. Rahn
Ballard Spahr LLP
101 South Reid St., Ste. 302
Sioux Falls, SD 57103
(605) 978-5200

Attorneys for Appellant and Plaintiff

Jason R. Ravnsborg
Paul S. Swedlund
Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501-8501
(605) 773-3215

Attorneys for Appellee and Defendant

INTRODUCTION

This case asks the Court to enforce a set of clear statutory commands from the South Dakota legislature. Pursuant to Section 23A-27A-32.1 South Dakota Codified Laws, no less than seven days before a scheduled execution, a death-sentenced inmate who was convicted or sentenced prior to July 1, 2007 is entitled to elect to be executed in the manner set forth in South Dakota law at the time of his conviction or sentence. In 1993, South Dakota law provided that the punishment of death "shall be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent…." SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984).

Appellant Charles Russell Rhines was sentenced to death in 1993 and has exercised his right to elect the manner of execution in place at that time, but the State notified him that it would inflict death with pentobarbital, a drug that is neither an "ultra-short-acting barbiturate" nor a chemical paralytic agent. Mr. Rhines therefore brings causes of action that arise out of his statutory rights, his exercise of those rights in accordance with the statutory requirements, and the State's refusal earlier this month to comply with the governing statutes.

The trial court did not reach the merits of this issue, but rather decided that Mr. Rhines's prior habeas litigation that had challenged a prior execution protocol on constitutional grounds likely preclude Mr. Rhines from now enforcing his statutory right. The facts the underlie the basis for the instant claims, however, did not exist at the time of the earlier litigation and only arose after Appellee South Dakota Department of Corrections ("DOC"), in response to Mr. Rhines's timely election and a subsequent letter

from his attorneys, informed Mr. Rhines earlier this month that it would not comply with the statutory mandates.

Unlike any prior litigation, Mr. Rhines today seeks to enforce his state statutory rights. Every issue newly arises out of two statutes and an unforeseen event that occurred earlier this month: the State's refusal to comply with those statutes. This Court should grant Mr. Rhines the relief to which he is entitled to by statute: to be executed with an ultra-short-acting barbiturate and a stay to prevent the State from executing him with a drug that is not an ultra-short-acting barbiturate.

PERTINENT FACTUAL AND PROCEDURAL BACKGROUND

Mr. Rhines is a prisoner sentenced to death by the State of South Dakota, with an execution warrant setting his execution week as between November 3, 2019 and November 9, 2019. Mr. Rhines was sentenced to death on January 29, 1993.

Previously, in 2011, Mr. Rhines litigated whether the legislature's amendments to its execution statute in 2007 and the State's August 2011 protocol complied with the Eighth Amendment standards as set forth by the United States Supreme Court in *Baze v. Rees*, 533 U.S. 35 (2008). *See* Feb. 27, 2013, Op., Trimble, J.at 8. Judge Trimble ultimately determined that the protocol was sufficiently like *Baze* that it was constitutional on its face, *id.* at 10–12, and that South Dakota would implement its protocol in a constitutional manner. *Id.* at 12–18.

In 2018, Mr. Rhines challenged the State's creation of a new execution protocol without complying with the Administrative Procedure Act. *See Rhines v. S. Dakota Dep't of Corr.*, 2019 S.D. 59 (S.D. 2019).

Pursuant to Section 23A-27A-32.1 South Dakota Codified Laws, Mr. Rhines is entitled to elect to be executed in the manner set forth in South Dakota law at the time of his conviction or sentence. In 1993, South Dakota law provided that the punishment of death "shall be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent…." SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984).

As recently as August 2019, the State provided documents to Mr. Rhines's attorneys regarding sodium thiopental, a drug that is classified as an ultra-short-acting barbiturate with which the State could execute Mr. Rhines in compliance with its law. *See, e.g.*, Exhibit attached to 11/1/2019 Affidavit of Timothy Rahn. For example, in a letter dated April 17, 2012, the State wrote to the Food & Drug Administration and indicated that the State possessed sodium thiopental. *Id.* The State "enclose[ed] the FDA's March 25, 2011, letter authorizing South Dakota's importation of sodium thiopental stock . . . ." *Id.* The State resisted a request from the Food & Drug Administration to "return . . . any foreign-manufactured thiopental . . . ." *Id.*

On October 1, 2019, Mr. Rhines exercised his statutory right to be executed according to the law in effect at the time of his sentence. He sent a Kite-Request Slip to Appellee Darin Young, Warden of the South Dakota State Penitentiary, electing to be executed in the manner that was in effect at the time that he was sentenced to death. In an amended Kite-Request Slip to Warden Young, dated October 4, 2019, Mr. Rhines reiterated his choice to be executed in the manner that was in effect at the time that he was sentenced to death, to wit, "[t]he Two Drug Protocol of a Lethal Dose of An Ultra-Short Acting Barbiturate and a Chemical Paralytic." Warden Young never responded to

these requests and never indicated that the DOC would not comply with Mr. Rhines's election.

On October 15, 2019, attorneys for Mr. Rhines, emailed and mailed a letter to Warden Young, Jason R. Ravnsborg in his capacity as the Attorney General for the State of South Dakota, and Paul Swedlund, Assistant Attorney General. Counsel requested confirmation that Mr. Rhines's request to be executed by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent would be honored. In a letter dated October 17, 2019, Assistant Attorney General Swedlund advised counsel that he had received "Mr. Rhines' request for execution pursuant to the combination of drugs provided by statute at the time of his execution." Mr. Swedlund asserted that "State will follow the law." Mr. Swedlund further informed counsel that "[t]he ultra-short-acting barbiturate the state intends to use is pentobarbital."

On October 22, 2019, Rhines filed an action in the Circuit Court for the Second Judicial Circuit seeking injunctive and declaratory relief to enforce his statutory right under South Dakota law to be executed by the manner he chose.

Rhines's Complaint alleges four causes of action. The First Cause of Action, Violation of the Right to Choose the Manner of Execution Provided by Law at the Time of Sentence, alleges that, in enacting SDCL § 23A-27A-32.1, the State of South Dakota created a state statutory right that entitles Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence. (Compl. ¶¶ 39-44.) The manner of execution provided by South Dakota law at the time of Rhines's conviction and sentence was, in relevant part, "by the intravenous administration of a

lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch 181, codified at SDCL § 23A-27A-32 (1984.) Rhines exercised his right to choose the manner set forth in SL 1984, ch 181. (Compl. ¶ 44.) Rhines did so in accordance with the provisions of SDCL § 23A-27A-32.1. (*Id*.)

The Second Cause of Action, Deprivation of Due Process, alleged that in enacting SDCL § 23A-27A-32.1, the State of South Dakota created life and liberty interests that entitle Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence. (Compl. ¶¶ 51-54.) Rhines's life and liberty interests in being executed in this manner are protected by the Due Process Clause of the Fourteenth Amendment of the United States Constitution and the Due Process Clause of Article Six, Section 2 of the South Dakota Constitution. (*Id.* ¶¶ 55-56.)

The Third Cause of Action, Injunctive Relief, and the Fourth Cause of Action, Declaratory Judgment, sought injunctive and declaratory relief: (1) Staying Rhines's execution pending adjudication of this action; (2) declaring that pentobarbital is neither an ultra-short-acting barbiturate nor a chemical paralytic agent; (3) enjoining the State from executing Rhines with pentobarbital; and (4) ordering that the State shall execute Rhines only with an ultra-short-acting barbiturate, to wit, sodium methohexital or sodium thiopental, in combination with a chemical paralytic agent. (*Id.* ¶¶ 58-71.)

In light of Mr. Rhines's scheduled execution, he also filed an application for a preliminary injunction, temporary restraining order, or stay of execution to prohibit the State from executing him with pentobarbital and to order that the State shall execute

Rhines only with an ultra-short-acting barbiturate in combination with a chemical paralytic agent. Rhines requested an expedited hearing on his application for a preliminary injunction so that the lower court could rule on the application in advance of the execution week beginning November 3, 2019.

The matter was assigned to Judge Jon C. Sogn who scheduled a hearing for October 29, 2019. Late in the evening of October 27, 2019, Assistant Attorney General Swedlund filed a Response to the Motion for Preliminary Injunction, Temporary Restraining Order, and Stay of Execution.

At the October 29, 2019 hearing, Judge Sogn heard argument from counsel and testimony from Dr. Craig Stevens, Ph.D, a professor of Pharmacology at Oklahoma State University. Dr. Stevens explained that barbiturates are classified as ultra-short-acting, short-acting, intermediate-acting, or long-acting. He is not aware of any peer reviewed articles or medical literature that has ever classified pentobarbital as an ultra-short-acting barbiturate. He testified that in his expert opinion, pentobarbital is not an ultra-short-acting barbiturate.

Judge Sogn took the matter under advisement. He invited the parties to submit any additional argument, authority, or affidavits by the following afternoon. On October 30, 2019, Mr. Rhines filed a supplemental memorandum and an affidavit from attorney Fritz offering additional medical and pharmacological authority supporting the fact that pentobarbital is not an ultra-short-acting barbiturate.

Mr. Rhines submitted authoritative medical texts and articles that date back to before 1984, when the legislature wrote the statute at issue, that confirm Dr. Stevens's opinion. Mr. Rhines submitted other authorities specific to the field of anesthesiology

and outside the field of pharmacology that likewise classify pentobarbital as a short-acting barbiturate. Further, Mr. Rhines directed the court's attention to manufacturers of pentobarbital that refer to it as a short-acting barbiturate.

The State made no additional formal filings, although it sent two short e-mails to Judge Sogn to reiterate one argument and to provide a citation for one additional case.

On October 31, 2019, the Second Judicial Circuit Court denied an application for a temporary restraining order and preliminary injunction, and declined to grant a stay of execution. Mr. Rhines filed a notice of appeal that same day.

In addressing whether Mr. Rhines was likely to succeed on the merits of this case, the trial court did not address whether pentobarbital was classified as an ultra-short-acting barbiturate in compliance with the relevant statute. Instead, the trial court held that Mr. Rhines's claims would likely be barred based upon res judicata. To the contrary, Mr Rhines could not have properly litigated this claim in earlier litigation because, as set forth below, Mr. Rhines's prior litigation did not seek enforcement of his statutory rights. The trial court also asserted that Mr. Rhines's request for a stay should be denied because he should have litigated this issue earlier. But the statute at issue did not require Mr. Rhines to elect a method of execution until, at the latest, seven days prior to the execution. And Mr. Rhines did not have reason to believe that Appellees would not honor his request: Appellees had represented to Mr. Rhines's attorneys in August of 2019 that they had an ultra-short-acting barbiturate, sodium thiopental, and; the DOC protocol specifically contemplates executions using sodium thiopental.

Mr. Rhines now seeks a stay of execution pending appeal of that denial and files this emergency appeal to this Court.

STANDARD OF REVIEW

This Court reviews a denial of a temporary restraining order, a preliminary injunction, or a stay of execution for abuse of discretion. *Losee v. Hettich*, 74 S.D. 461, 54 N.W.2d 353 (1952). "An abuse of discretion can simply be an error of law or it might denote a discretion exercised to an unjustified purpose, against reason and evidence." *Hendrickson v. Wagners*, Inc., 1999 SD 74, ¶ 14, 598 N.W.2d 507, 511 (S.D. 1999) (citations omitted) (quoting *Knodel v. Kassel Township*, 1998 SD 73, ¶ 6, 581 N.W.2d 504, 506 (S.D. 1998)).

This Court reviews de novo questions of res judicata. *See Farmer v. S. Dakota Dep't of Revenue & Regulation*, 2010 S.D. 35, 781 N.W.2d 655, 659 (S.D. 2010).

This Court has an inherent power to preserve the status quo pending appeal. *Smith v. Reid*, 60 S.D. 128, 132–33, 244 N.W. 81, 83 (1932); *Gamet v. Allender*, 50 S.D. 150, 208 N.W. 782, 783 (1926). The staying of the execution of a condemned inmate comes within this Court's inherent authority to preserve the status quo. *State v. Robert*, 2012 S.D. 27, ¶ 9, 814 N.W.2d 122, 124-25 (S.D. 2012). This power "'should always be exercised when any irremediable injury may result . . . .'" *Id.* (citing *Merrimack River Sav. Bank v. City of Clay Ctr.*, 219 U.S. 527, 534–35, 31 S. Ct. 295, 296, 55 L. Ed. 320 (1911)). Failing to stay an execution "obviously result[s] in an irremediable injury." *State v. Robert*, 2012 S.D. 27, ¶ 9 (S.D. 2012).

ARGUMENT

I. MR. RHINES HAS DEMONSTRATED THE REQUISITE LIKELIHOOD OF SUCCESS ON THE MERITS TO JUSTIFY A STAY.

This action involves important issues regarding SDCL § 23A-27A-32.1, in which the State of South Dakota codified a statutory right that entitles Mr. Rhines to be executed in the manner provided by South Dakota law at the time of his conviction or sentence. In accordance with that statute, Mr. Rhines exercised his right to choose the manner set forth at the time of his sentence: execution by an ultra-short-acting barbiturate in combination with a chemical paralytic. The State then informed Mr. Rhines that it will use pentobarbital to execute him. Pentobarbital, as discussed *infra* Section I.b., is *not* an ultra-short-acting barbiturate or a chemical paralytic, however. By refusing to follow binding law, the DOC is depriving Rhines of his statutory right.

In deciding a stay motion, courts must decide whether a movant showed a likelihood of success on the merits. *See Strong v. Atlas Hydraulics, Inc.*, 2014 S.D. 69, ¶ 12, 855 N.W.2d 133, 139 (S.D. 2014); *Nelson v. Campbell*, 541 U.S. 637, 649-50 (2004). The likelihood of success does not mean that the inmate will probably win, but rather, that the inmate has shown a "significant possibility" of success. *Nooner v. Norris*, 491 F.3d 804, 808 (8th Cir. 2007) (citing *Hill v. McDonough*, 547 U.S. 573, 584 (2006)). Stays are not granted in instances in which the suit "amounts to little more than an attack on settled precedent" or is based on speculative theories. *See Bucklew v. Precythe*, 139 S. Ct. 1112, 1134 (2019).

a. Mr. Rhines Filed His Action Within Three Business Days of When It Presented a Concrete Case or Controversy With Ripe Issues.

In their response, Appellees raised a defense of res judicata. The trial court decided that Mr. Rhines had not demonstrated the requisite likelihood of success on his causes of action in light of that defense. *See* Order at 22. The heart of the trial court's analysis, however, is an erroneous conclusion it repeats throughout its order: that Mr.

"Rhines challenged the exact protocol in 2011 [that] he is challenging now." Order at 21. That conclusion misconstrues the nature of Mr. Rhines's prior litigation in 2011 and this suit, and it misapplies the law of res judicata.

Unlike any prior litigation, Mr. Rhines today seeks to enforce his state statutory rights. His causes of action are rooted in SDCL § 23A-27A-32.1 and SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984), not the State's protocol. As discussed below, this case could not have presented any court with a justiciable case or controversy or any ripe issue until the DOC notified Mr. Rhines that it refused to comply with Mr. Rhines's statutory rights under SDCL § 23A-27A-32.1 and SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984).

The doctrine of res judicata bars any "attempt to relitigate a cause of action by the parties or one of the parties in privity to a party to an earlier suit." *Dakota Plains AG Ctr., LLC v. Smithey*, 772 N.W.2d 170, 179–80 (S.D. 2009) (quoting *Speck v. Federal Land Bank of Omaha*, 494 N.W.2d 628, 633 (S.D.1993)). "The doctrine 'embodies both merger and bar [.]'" *Id., Black Hills Jewelry Mfg. Co. v. Felco Jewel Indus., Inc.*, 336 N.W.2d 153, 157 (S.D.1983) (citing *Palma v. Powers*, 295 F.Supp. 924 (N.D.Ill.1969)). "'Res judicata serves as claim preclusion to prevent relitigation of an issue actually litigated or which could have been properly raised and determined in a prior action.'" *Id.* (quoting *Black Hills Jewelry Mfg. Co.*, 336 N.W.2d at 157).

Whether an issue could have been properly litigated in an earlier action requires consideration of whether the issue actually had been ripe for determination at the time of that earlier action. *See State v. Hammerquist*, 67 S.D. 417, 293 N.W. 539, 541 (S.D. 1940); *Danforth v. City of Yankton*, 25 N.W.2d 50 (S.D. 1946).

Ripeness involves the timing of judicial review and the principle that the judicial machinery should be conserved for problems that are real and present, not squandered on problems that are abstract, hypothetical, or remote. *Steinmetz v. State, State Star Academy*, 756 N.W.2d 392, 399 (S.D. 2008). For instance, issues that are "dependent upon the future occurrence of conduct and events that were uncertain and unknown" are unripe for judicial determination. *See Boever v. S. Dakota Bd. of Accountancy*, 526 N.W.2d 747, 750 (S.D. 1995). Issues, however, that are "imminent and inevitable" are ripe for review. *Id.* Courts should not render advisory opinions or decide theoretical questions when the future shows no indication of the invasion of a right. *Id.*

Here, as a threshold matter, the trial court misconstrued the nature of Mr. Rhines's causes of action by repeatedly describing them as a "challenge [to] the [execution]s protocol's compliance with the statutes [at issue]," and comparing it to Mr. Rhines's 2011 litigation. *See* Order at 16; *see also id.* at 17 ("Rhines could have and should have brought a specific challenge to the use of pentobarbital as part of his then-pending complaint . . . ."); *id.* at 21 ("Rhines challenged the exact protocol in 2011 as he is challenging it now."). The actual nature of Mr. Rhines's prior litigation and this litigation belie the trial court's analysis.

Earlier, in 2008, Mr. Rhines made constitutional challenges to the State's manner of execution. He sought a ruling that the Eighth Amendment barred "an execution carried out by means of [a] two drug cocktail provided in SDCL 23A-27A-32 in effect at the time of his conviction" and "a declaration that SDCL 23A-27 A-32, as presently codified, and as applied to Rhines, constitute[d] an unconstitutional bill of attainder[,] an unconstitutional ex post facto law[,] and deprive[d] him of his right to due process of the

law." Order at 13. The State adopted a new protocol in 2011, during that litigation, and Judge Trimble later denied relief for all of Mr. Rhines's claims. *See id.* at 13–14. In 2018, Mr. Rhines unsuccessfully challenged the current protocol's promulgation as in violation of the Administrative Procedures Act.

None of those challenges gave Mr. Rhines reason to believe that the State would not use an ultra-short-acting barbiturate if he exercised his statutory right that he seeks to enforce through this litigation. As of October 2019, by statute, Mr. Rhines had the right to elect his method of execution, either by the law currently in place, or by the law in place at the time of his conviction or sentence. The Legislature mandated that he make his election at least seven days prior to his scheduled execution. SDCL § 23A-27A-32.1. There is no dispute that Mr. Rhines complied with the statute governing his election. On October 1, 2019, more than a month before his scheduled execution, Mr. Rhines sent a Kite Request Slip to Darin Young, Warden of the South Dakota State Penitentiary, Mr. Rhines chose to be executed in the manner that was in effect at the time that he was sentenced to death.

Before October 17, 2019, there was no reason to believe that the State would do anything other than abide by the statutory requirement Mr. Rhines had elected, i.e., a lethal dose of an ultra-short acting barbiturate and chemical paralytic agent. The State has possessed an ultra-short-acting barbiturate, sodium thiopental, in the past. Further, the 2011 protocol contemplated the use of sodium thiopental in executions. But the State, on October 17, indicated it would not use sodium thiopental and, instead, advised counsel that "[t]he ultra-short-acting barbiturate the state intends to use is pentobarbital." As discussed *infra* Section I.b., pentobarbital is not an ultra-short-acting barbiturate.

As a result, Mr. Rhines promptly initiated this new action to enforce his statutory rights *after* DOC notified him that it would violate his statutory rights for the very first time. The causes of action in this case therefore arise out of the State's refusal to comply with Mr. Rhines's proper statutory election and events that culminated in the State's mailing of a letter that it would use a short-acting or intermediate-acting barbiturate, but not an ultra-short-acting one. Any litigation therefore was contingent upon the state notifying Mr. Rhines that it was refusing to comply with the statutes at issue. At no earlier point in time did Mr. Rhines "ha[ve] a 'full and fair opportunity to litigate'" these causes of action, let alone "a controversy in which a claim of right is asserted against one who has an interest in contesting it." Order at 19 (quoting *Boever v. South Dakota Bd. Of Accountancy*, 526 N.W.2d 747, 750 (S.D. 1975). Nor were the issues being litigated here previously "ripe for judicial determination." *Id.* (quoting *Boever*, 526 N.W.2d at 750).

For example, the trial court relied on *Lewton v. McCauley*, 460 N.W.2d 728, 730 (S.D. 1990), and *Farmer v. S. Dakota Dep't of Revenue & Regulation*, 2010 S.D. 35, 781 N.W.2d 655 (S.D. 2010), to apply *res judicata* against Mr. Rhines, but these cases support Mr. Rhines's position that *res judicata* is not implicated here. In *Lewton*, this Court found that when facts arise after initial litigation is terminated, and those facts underlie new claims, the doctrine of *res judicata* does not apply. *Letwon*, 460 N.W.2d at 731. If facts "did not exist at the time" of the earlier litigation, *res judicata* cannot be a bar to subsequent litigation. *Id.* By contrast, where a party has "a full and fair opportunity to litigate" its claims in an earlier proceeding, *res judicata* will apply. *Farmer*, 781 N.W. 2d at 661. This Court cautioned that "we should not" "interpret[] the doctrine of res judicata too broadly[.]" *Lewton*, 460 N.W.2d at 730.

If anything, the State's Notice of Adoption of Revised Execution Policy and Protocol dated October 24, 2011, put Mr. Rhines on notice that the DOC ***would*** comply with the law in effect in 1993 if Mr. Rhines so elected, not that it would disregard the statute's plain language. Specifically, the protocol provided that an inmate "shall be executed using the 3- or 1-Drug protocol provided in this document . . . unless the inmate requests in writing . . . that the inmate wishes to be executed by the 2-Drug protocol set forth herein *in accordance with South Dakota law as it existed* prior to July 1, 2007." State's Exhibit 1 at page 3 (emphasis added). This language *imposes a limitation on* the protocol's application to ensure compliance with statutory law as it existed prior to July 2007, i.e., the 1984 statute in this case. Implementation of the 2-drug protocol "in accordance with South Dakota law" requires the DOC to use an ultra-short-acting barbiturate, like thiopental, which, the protocol provides, is indeed an option for use in the execution. Thus, on the face of the Notice, Mr. Rhines had no reason to believe that, if he elected that option, the DOC would fail to comply with the South Dakota law as it existed prior to July 1, 2007 by using an ultra-short-acting barbiturate, because (1) sodium thiopental was an option in the Notice and (2) it stated that Defendants would follow the pre-2007 law.

Although Mr. Rhines's attorneys made this very point in oral argument, the trial court failed to cite this critical portion of the protocol that imposes a *limitation* on the state. Instead, the trial court quoted only a different portion of that paragraph. *See* Order at 13–14. The trial court erroneously gave weight to the fact that the 2011 protocol "listed pentobarbital as one of two drugs that could be administered in the 2-drug protocol." Order at 17. The protocol also listed thiopental, and did not "contain[]

explicit notice of the State's intention to use pentobarbital . . . ." *See* Order at 16. There would have been no foreseeable, let alone ripe, issue regarding the State's use of pentobarbital unless and until the State indicated it would use that drug on an individual sentenced in 1993 who had elected to be executed in the manner required by law in 1993, thus, that the State would not in fact act "in accordance with South Dakota law [in 1993]."

Similarly, this Court should reject the trial court's reasoning that would have required Mr. Rhines to litigate this issue on the *belief* that the State would violate the law by failing to comply with the 1984 statute. The trial court relied on *Boever*, but the *Boever* Court addressed two issues: (1) a challenge involving a quality reviews mandated by statute to occur every three years and (2) a challenge involving a statute that imposes discipline under certain circumstances. *See Boever v. S. Dakota Bd. of Accountancy*, 526 N.W.2d 747, 749–51 (S.D. 1995). The former challenge was ripe, because the issues were "'*imminent and inevitable*.'" Order at 20–21 (quoting *Boever*, 526 N.W.2d at 750) (emphasis added).

Here, however, the State's use of a drug that would violate the 1984 statute was not "bound to happen." In fact, to apply that analysis here, this Court would have to agree that the DOC's refusal to follow the law was "imminent and inevitable." Such a conclusion requires a degree of skepticism about the DOC's responsibilities that this Court should reject. As noted above, the 2011 protocol's own language demonstrates the DOC's recognition of a need to comply with statutory law. Mr. Rhines's action therefore "was dependent upon the future occurrence of conduct and events that were *uncertain*

and unknown," like the "likelihood of future discipline" in *Boever*, and res judicata does not apply. *Id.* at 750.

Moreover, that the DOC included pentobarbital as one of the two possible drugs it would use in its 2011 two-drug protocol is not relevant here. Mr. Rhines is not challenging alternate possibilities presented in that protocol here. His causes of action arise out of two statutes—SDCL § 23A-27A-32.1 and SDCL § 23A-27A-32.1 and SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984)—and the State's refusal to comply with those statutes, not the State's protocol. The trial court also appears to treat *notice* of *possible* State action as sufficient to confer standing and make the issues in this case ripe, going so far as to conclude that, "[b]ecause the . . . prior litigation specifically talked about both drugs [(pentobarbital and thiopental)], the protocol, and the statute, Rhines was bound to bring the claims at that time." *See* Order at 16 (reasoning that "Rhines was put on notice of the adoption and revision of the protocol."). Yet a State's "talk[ing] about" multiple options does not create a justiciable case or controversy or a make a possible issue ripe for judicial determination.

In fact, as recently as August 2019, the State provided documents to Mr. Rhines's attorneys regarding thiopental, a drug that actually is an ultra-short-acting barbiturate with which the State could execute Mr. Rhines in compliance with state law. *See, e.g.*, Exhibit attached to 11/1/2019 Affidavit of Timothy Rahn. One of those documents is a letter dated April 17, 2012, in which the Office of the Attorney General of South Dakota wrote to the Food & Drug Administration. *See id.* The Attorney General indicated that the State possessed thiopental and "enclose[ed] the FDA's March 25, 2011, letter authorizing South Dakota's importation of sodium thiopental stock . . . ." *Id.* The State

resisted a request from the Food & Drug Administration to "return . . . any foreign-manufactured thiopental . . . ." *Id.*

If Appellees were not prepared to comply with statute they could have, at any time, either sought an amendment to SDCL § 23A-27A-32.1 or could have sought relief from the court from compliance with the statute. They did not.

In sum, before October 2019, any issues concerning the State's willingness to follow the law in effect at the time of Mr. Rhines's sentence would have been based on speculation about future actions that may or may not occur. Those issues were not ripe at that time and, thus, res judicata does not bar this action. Accordingly, this Court should reverse the trial court's order and grant Mr. Rhines the relief he seeks: to be executed with an ultra-short-acting barbiturate and a stay to prevent the State from executing him with a drug that is not an ultra-short-acting barbiturate.

b. The Trial Court Fails to Address Mr. Rhines's First Cause of Action, that Appellees Violated His Statutory Rights, A Cause of Action Upon Which Mr. Rhines is Likely to Succeed.

Affirming the trial court's ruling would permit the DOC to violate the plain language of binding statutory law. The trial court did not address this issue, but Mr. Rhines clearly met his burden to justify temporary relief or, in the alternative, final judgment requiring the DOC to comply with the law.

Mr. Rhines is likely to succeed on the merits of his cause of action alleging a violation of state statutory law. The plain language of the statutes at issue is clear. In enacting SDCL § 23A-27A-32.1, the State of South Dakota entitled Rhines to be executed in the manner provided by South Dakota law at the time of his conviction or sentence. *See* SDCL § 23A-27A-32.1.

In the trial court, Rhines relied on the unambiguous language of the execution statute at the time of his conviction and sentence. At the time of his conviction and sentence, the execution statute used the precise term "ultra-short-acting barbiturate" as the necessary first drug in an execution. SL 1984, ch 181, codified at SDCL § 23A-27A-32 (1984). "The intent of a statute is determined from what the legislature *said, rather than what the courts think it should have said,* and the court must confine itself to the language used. Words and phrases in a statute must be given their plain meaning and effect." *Rhines v. S. Dakota Dep't of Corrs.*, 2019 S.D. 59, ¶ 13 (2019) (emphasis added).

That term "ultra-short-acting barbiturate" had, and continues to have, a clear meaning, as demonstrated by substantial evidence in the record before this Court. Pentobarbital, which the state has indicated it plans to use as an "ultra-short-acting barbiturate," is not classified as an ultra-short-acting barbiturate.

i. The State Is Violating Its Statutory Obligation to Execute Rhines with an Ultra-Short-Acting Barbiturate in Combination with a Chemical Paralytic Agent.

The plain language of the statutes at issue is clear. SDCL § 23A-27A-32.1 entitles Mr. Rhines to be executed in the manner provided by South Dakota law at the time of his sentence. *See* SDCL § 23A-27A-32.1. The South Dakota Legislature enacted this provision in February of 2007 and made no changes to it when the Legislature amended portions of § 23A-27A-32 in 2008.

When Mr. Rhines was convicted and sentenced, in 1993, South Dakota law provided, in pertinent part, and unequivocally, that "[t]he punishment of death *shall* be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting

barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch. 181 (emphasis added). The statute allows no discretion in the manner of execution, but rather gives specific directives as to the manner of execution. Accordingly, SDCL § 23A-27A-32.1 and SL 1984, ch. 181, codify a right to an execution "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent." SL 1984, ch. 181.

Pursuant to the SDCL § 23A-27A-32.1, Mr. Rhines shall be executed in this manner if he "choose[s] by indicating in writing to the warden not less than seven days prior to the scheduled week of execution the manner of execution chosen." SDCL § 23A-27A-32.1. Mr. Rhines chose to be executed in this manner—more than 4 weeks prior to the week of his execution—in a written Kite-Request Slip dated October 1, 2019, addressed to Defendant Young, and in an amended written Kite-Request Slip dated October 4, 2019, addressed to Defendant Young. (Compl. ¶¶ 30, 31, Exhibits B, C to the Compl.) Based upon the foregoing, Mr. Rhines has demonstrated that he has a right to be executed in the manner he has chosen arising from South Dakota Codified Law.

The DOC cannot deprive Rhines of his right to be executed in the manner of his choice. The DOC, however, has taken the position that pentobarbital is an ultra-short-acting barbiturate. (Compl. ¶ 34, Exh. E to the Compl.) The DOC's assertion is erroneous and contradicted by substantial record evidence, as discussed in more detail below. Pentobarbital is not an ultra-short-acting barbiturate. (Compl. ¶ 36; Stevens Aff. ¶¶ 7, 8.) Ultra-short-acting barbiturates include sodium methohexital and sodium

thiopental. (Compl. ¶ 35; Stevens Aff. ¶ 7.) The statute's plain language requires that the State use an ultra-short-acting barbiturate. By refusing to guarantee that Rhines will be executed in the manner set forth in SL 1984, ch. 181, the State is depriving Rhines of his state statutory right codified and protected by SDCL § 23A-27A-32.1, and SL 1984, ch. 181.

This case is analogous to *Smith v. State*, No. BDV-2008-303, 2015 WL 5827252 (Mont. Dist. Oct. 6, 2015) (Exh. A to the Compl.). In *Smith*, the Court addressed a similar Montana law that provided "[t]he punishment of death must be inflicted by administration of a continuous, intravenous injection of a lethal quantity of an ultra-fast-acting barbiturate in combination with a chemical paralytic agent until a coroner or deputy coroner pronounces that the defendant is dead." *Id.* at *1. However, the State of Montana intended to execute Smith using pentobarbital, which, Smith argued, is not an ultra-fast-acting barbiturate. *Id.* After a trial, the court concluded, among other things, that pentobarbital is not an ultra-fast-acting barbiturate and enjoined the State of Montana from executing Smith using pentobarbital. *Id.* at *6. The court credited the fact that "the terms ultra-fast and ultra-short refer to the same type of barbiturates, as do the terms fast and short, and as do the terms slow and long." *Id.* at *3.

The Montana statute at issue in *Smith* and SL 1984, ch. 181, are nearly verbatim. The evidence presented by Mr. Rhines demonstrates, as was demonstrated in *Smith*, that pentobarbital is not an ultra-short-acting barbiturate. Thus, just as Smith succeeded on the merits of his claims, Mr. Rhines is likely to succeed on the merits of his.

ii. Overwhelming Evidence Confirms that Pentobarbital Is Not an Ultra-Short-Acting Barbiturate.

The evidence presented at the hearing overwhelmingly shows that pentobarbital is not an ultra-short-acting barbiturate. Dr. Craig Stevens, a professor of pharmacology at Oklahoma State University, testified and explained that barbiturates are classified as either ultra-short-acting, short-acting, intermediate-acting, or long-acting, depending upon their chemical properties. The relevant property is lipid solubility. The most lipid-soluble barbiturates are sodium thiopental and methohexital, which are thus classified in the literature as ultra-short-acting. Pentobarbital is less lipid-soluble than sodium thiopental and methohexital to a significant degree and is classified as a short-acting barbiturate.

Barbiturates' lipid solubility does not change depending upon the dose or setting. Dr. Stevens is not aware of any peer-reviewed articles or medical literature that has ever classified pentobarbital as an ultra-short-acting barbiturate. He testified unequivocally that pentobarbital is not classified as an ultra-short-acting barbiturate.

Dr. Stevens's opinion is consistent with authoritative medical texts and articles that date back to before 1984, when the legislature wrote the statute at issue. *See, e.g.*, Linda Lilley, et al., Pharmacology and the Nursing Process 189 (9th ed. 2020) (including classification chart listing thiopental as ultrashort-acting barbiturate and pentobarbital as short-acting barbiturate); PHARMACOLOGY 111 fig. 9.7 (Richard A. Harvey & Pamela C. Champe eds.) (4th ed. 2009) (classifying pentobarbital as short-acting and thiopental as ultra-short-acting); Carl Burtis, et al., Tietz Textbook of Clinical Chemistry and Molecular Diagnostics 1325-26 & Table 34.10 (4th ed. 2006) (identifying thiopental as ultrashort-acting barbiturate and pentobarbital as short-acting barbiturate); Francisco López-Muñoz, et al., The History of Barbiturates a Century After Their Clinical

Introduction, NEUROPSYCHIATRIC DISEASE AND TREATMENT, Vol. 1(4), 329-43, Table 3 (Dec. 2005) (reproducing table from 1983 classifying pentobarbital as short-acting and thiopental as ultrashort-acting); *see also* 1 Lawyers' Guide to Medical Proof § 106.02 (2019) (listing ultrashort-acting barbiturates "in current medical use" as methohexital, thiamylal, and thiopental, and listing pentobarbital among the short-acting and intermediate-acting barbiturates); 9 Attorneys Textbook of Medicine (Third Edition) P. 51.10 (2019) (listing ultrashort-acting barbiturates as thiopental, thiamylal and methohexital); 12-256-9A Courtroom Medicine Series: Psychic Injuries § 9A.50 ("Ultra-short-acting barbiturates include thiopental (half-life of 6 to 46 hours; Schedule III) and methohexital (1 to 2 hours; Schedule IV); the short-acting group includes pentobarbital (Nembutol; 15 to 48 hours; Schedule II; III) . . . .").

The affidavit of Dr. Antognini, submitted by the State, does not contradict this. While it suggests that the duration of pentobarbital's effects changes with a larger dose, he significantly omits any conclusion that pentobarbital is or has ever been classified as an ultra-short-acting barbiturate. Moreover, courts have found that Dr. Antognini's opinions in the death penalty context are "shown to be an outlier in the field of anesthesiology." *In re Ohio Execution Protocol Litigation*, 2019 WL 244488 at * 62 (S.D. Oh. January 14, 2019) (slip opinion). Appellees were provided with an opportunity to provide a supplemental affidavit to contradict Dr. Stevens testimony, and Appellees failed to do so.

At the hearing, the State asserted that the fact that pentobarbital is sometimes classified as short-acting or intermediate-acting is proof that classifications can change. This assertion only stands for the idea that pentobarbital falls in the middle range. It does

not mean, and the State failed to submit any evidence to support a conclusion, that the classification of pentobarbital has ever been ultra-short-acting. The classification of barbiturates as "ultra-short-acting" is the only issue to which the legislature has directed the State and this Court.

The State also suggested—without any evidence—that anesthesiologists do not categorize barbiturates in the same manner as pharmacologists do. To the contrary, the court in *Smith*, cites Margaret Wood and Alistair J.J. Wood's text, I (2d. ed.,Williams & Wilkins 1989), in support of the statement that "[b]arbiturates are traditionally classified as long-acting (phenobarbital), medium-acting (such as pentobarbital), short-acting (secobarbital), and ultra-short-acting (thiopental)." *Smith*, 2015 WL 5827252, at *2. The State has cited an article on neurosurgical anesthesia to support its argument, *see* Response Mot. Prelim. Inj. 14, but that article itself recognizes that pentobarbital is not an ultra-short-acting barbiturate: "[L]ittle is known about the hemodynamic effects of pentobarbital in humans, at least when given in the doses needed for neurosurgical purposes. *This contrasts with the large body of data concerning the effects of the ultrashort-acting anesthetic barbiturates such as thiopental*."). Todd, Drummond and Sang, Hemodynamic Effects of High Dose Pentobarbital: Studies in Elective Neurosurgical Patients, 20 NEUROSURGERY 559 (1987) (emphasis added).

Other authorities specific to the field of anesthesiology and outside the field of pharmacology likewise classify pentobarbital as a short-acting barbiturate. *See*, *e.g.*, Helen Lamb, The barbiturates: with particular reference to their use in anesthesia. Bulletin of the American Association of Nurse Anesthetists. 1943;12(4): 228-29 (identifying pentobarbital as a barbiturate "of moderate duration" while identifying

evipal, pentothal, and thio-ethymal as "ultra-short-acting barbiturates"); Torben Seear, Pentobarbital Anesthesia in Labor, M.D. American Journal Of Obstetrics And Gynecology, Vol. 99, Issue 7, p. 955 (Dec. 1967) ("Pentobarbital is a short-acting, but not ultrashort-acting barbiturate."); Bryson, Peter D. *Comprehensive Review in Toxicology for Emergency Clinicians* 464 (3d. ed. 1996) (classifying Pentobarbital in the "Short – and Intermediate-acting" Barbiturate classification as opposed to the "Ultrashort-acting" classification); Sandra J. Cunningham & Waseem Hafeez, "Procedural Sedation and Pain Management Techniques," Textbook of Pediatric Emergency Procedures 423 (Christopher King & Fred M. Henretig eds., 2d ed. 2008) (identifying pentobarbital as "a short-acting barbiturate," as opposed to methohexital which is an "ultrashort-acting barbiturate").

Further, manufacturers of pentobarbital refer to it as a short-acting barbiturate. Not only does the FDA-approved branded manufacturer's insert for Nembutal Sodium Solution, which is the manufacturer's name for pentobarbital, state: "NEMBUTAL Sodium is a short-acting barbiturate," (Fritz Exh. 4), but the manufacturers for generic pentobarbital, Sagent and Leucadia, similarly state that pentobarbital is a short-acting barbiturate. *See* https://www.sagentpharma.com/wp-content/uploads/2017/11/Pentobarbital_PI-Revised.pdf; http://leucadiapharma.com/wp-content/uploads/2018/02/Pentobarbital_PI_Art_Clean.pdf.

The State repeatedly mischaracterized testimony on the classification of barbiturates from a different expert, Dr. Mark Heath, in different litigation. Dr. Heath's testimony supports Rhines's position. Dr. Heath used the terms "ultra-short" and "ultra-fast" interchangeably, and he consistently referred to that category of barbiturates in

"*contrast*" with pentobarbital. *Compare* State's Exhibit 8 at transcript page 21–22 ("I'll just start by comparing ultra-short and ultra-fast-acting barbiturates which will enter the brain very quickly in a matter of tenths of seconds, and will also leave the brain very quickly . . . . and those drugs would be the class of drug would be thiopental, for example, and another would be a drug called methohexital.") *with id.* at transcript page 22 ("*By contrast*, pentobarbital is slower to take effect and lasts for longer." (emphasis added)).

The State pulled quotations out of context, but even these quotations never established that this different expert classified pentobarbital as "ultra-short-acting." *See, e.g.*, State's Exhibit 11 at transcript page 90 (explaining that the line dividing ultrafast from fast-acting barbiturates "is really a molecular line. . . . . [Molecular] modifications have created a class unto itself."). The State goes so far as to repeatedly cite the expert's testimony in *Smith*, the very premise of which was that pentobarbital is not an ultra-short-acting barbiturate. Thus, that there are "different ways" to classify barbiturates does not change that Dr. Heath never placed pentobarbital in any sort of "ultra-short" or "ultra-fast" category. *See* State's Exhibit 8 at transcript page 21.

Consistent with this evidence, numerous cases have recognized that pentobarbital is not classified as an ultra-short-acting barbiturate. *See McGehee v. Texas Dep't of Criminal Justice*, No. MC H-18-1546, 2018 WL 3996956, at *2 (S.D. Tex. Aug. 21, 2018) ("Testimony in other cases has established that pentobarbital is 'not classified as an ultra-short-acting barbiturate.' *Mann v. Palmer*, 713 F.3d 1306, 1313 (11th Cir. 2013)."); *Bible v. Davis*, No. 4:18-CV-1893, 2018 WL 3068804, at *1 (S.D. Tex. June 21, 2018) ("Pentobarbital is an intermediate-acting barbiturate") (internal quotation omitted), aff'd,

739 F. App'x 766 (5th Cir. 2018); *West v. Schofield*, 519 S.W.3d 550, 553 (Tenn. 2017) (stating that pentobarbital is "described in [Tennessee's execution] Protocol as 'an intermediate-acting barbiturate'") (internal brackets omitted); *Grayson v. Warden, Comm'r, Alabama State*, 869 F.3d 1204, 1210 (11th Cir. 2017) (describing "pentobarbital, [as] a short-acting barbiturate sedative") (internal quotation marks omitted); *West v. Warden, Comm'r, Alabama State*, 869 F.3d 1289, 1292 (11th Cir. 2017) (describing "pentobarbital, [as] a short-acting barbiturate sedative") (internal quotation marks omitted); *Whitaker v. Livingston*, No. CV H-13-2901, 2016 WL 3199532, at *1 (S.D. Tex. June 6, 2016) ("Pentobarbital is an intermediate-acting barbiturate."), *aff'd sub nom. Whitaker v. Collier*, 862 F.3d 490 (5th Cir. 2017); *Smith v. Montana*, No. BDV-2008-303, 2015 WL 5827252, *2 (Oct. 6, 2015) ("Barbiturates are traditionally classified as long-acting (phenobarbital), medium-acting (such as pentobarbital), short-acting (secobarbital), and ultra-short-acting (thiopental)."") (Exh. A to the Compl.); *Trottie v. Livingston*, No. CV 4:14-2550, 2014 WL 12527181, at *2 (S.D. Tex. Sept. 5, 2014) ("pentobarbital . . . is an intermediate-acting barbiturate.") (internal quotation omitted); *Arthur v. Thomas*, 974 F. Supp. 2d 1340, 1345 (M.D. Ala. 2013) ("Sodium thiopental is classified as an 'ultra-short acting barbiturate,' while pentobarbital is an 'intermediate-acting barbiturate.' As these classifications indicate, sodium thiopental has an extremely rapid onset of effect and subsequent recovery, while pentobarbital is slower and longer-acting."); *Arthur v. Thomas*, 674 F.3d 1257, 1274 (11th Cir. 2012) ("sodium thiopental is 'ultrashort-acting,' while pentobarbital is 'intermediate-acting'") (internal quotation and citation omitted); *Powell v. Thomas*, 643 F.3d 1300, 1304 (11th Cir. 2011) ("sodium thiopental is 'ultrashort-acting,' while pentobarbital is 'intermediate-acting'") (internal

quotation and citation omitted); *In re Jacoby Airplane Crash Litig*., No. CIV.99-6073 (HAA), 2007 WL 5037683, at *22 (D.N.J. Aug. 27, 2007) ("The ultrashort-acting barbiturates produce anesthesia within about one minute after intravenous administration.... Barbiturate abusers prefer the Schedule II short-acting and intermediate-acting barbiturates that include amobarbital (Amyta®), pentobarbital (Nembutal®), secobarbital (Seconal®), and Tuinal (an amobarbital/secobarbital combination product).") (internal quotation and citation omitted). Nearly all of these cases arose in the lethal injection context thus belying the State's suggestion that pentobarbital's classification changes to ultra-short-acting when it is used in lethal doses for execution.

The State cited cases that, it claimed, indicate the absence of a difference between sodium thiopental and pentobarbital. As described during the hearing, those cases arose in the context of Eighth-Amendment or constitutional challenges focused on various execution protocols' likelihood to produce unnecessary suffering. Not one of these cases states that pentobarbital ever has been classified as an ultra-short-acting barbiturate, the only issue before this Court. In fact, undersigned counsel is aware of no case that identifies pentobarbital as an ultra-short-acting barbiturate.

The legislature used plain language in the statutes at issue. The DOC must follow that language. Just as the *Smith* court held, had the legislature intended to give the State of South Dakota latitude in what drugs to use, it could have used much more general language in the statute authorizing execution. Instead of "ultra-short-acting barbiturate," the legislature could have said "intermediate- or short-acting barbiturates in doses that

have the effect of ultra-short-acting barbiturates." Indeed, it later amended the statute to read "a substance or substances in a lethal quantity." SDCL 23A-27A-32.

Courts may not legislate through judicial interpretation of statutes, and this Court should grant a stay of execution to correct the trial court's error and ensure that the DOC follows the clear mandate of the legislature.

The State's assertion that the legislature intended to use the term "ultra-short-acting barbiturate" as "limited to its properties as a lethal agent" has no basis in the text of the statute. It amounts to post hoc speculation by the State to justify its choice of pentobarbital.

Three additional reasons undermine the State's attempt to legislate through this Court. First, if the State's interpretation were correct, it would render meaningless the legislature's subsequent decision to remove the phrase "ultra-short-acting barbiturate" and replace it with "substance or substances in a lethal quantity." *See* SDCL 23A-27A-32. Second, even before 1984, the term ultra-short-acting barbiturate had a well-known and well-defined meaning that did not include pentobarbital. Francisco López-Muñoz, et al., The History of Barbiturates a Century After Their Clinical Introduction, NEUROPSYCHIATRIC DISEASE AND TREATMENT, Vol. 1(4), 329-43, Table 3 (Dec. 2005) (reproducing table from 1983 classifying pentobarbital as short-acting and thiopental as ultrashort-acting). Third, the statute expressly references "standards of medical practice," indicating that it did not legislature in a vacuum, let alone the State's speculative "lethal agent" vaccum. *See* SL 1984, ch. 181, codified at SDCL § 23A-27A-32 (1984). ("The punishment of death shall be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical

paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice.").

c. The Trial Court's Failure to Adjudicate the Merits of Mr. Rhines's Due Process Claim and its Improper Application of Res Judicata to Deny an Injunction or a Stay Denied Mr. Rhines Due Process Under the US Constitution.

The lower court's failure to adjudicate the merits of his due process claim and its improper application of res judicata to deny an injunction or a stay likewise denied due process guaranteed by the Fourteenth Amendment of the U.S. Constitution. At its core, the Due Process Clause guarantees a party not only "the opportunity to present his case," but also the right "to have its merits fairly judged." *Logan v. Zimmerman Brush Co.*, 455 U.S. 422, 433 (1982). Thus, to satisfy due process, a hearing must fairly and reliably establish all the facts that the relevant law requires before a person may be deprived of his life and liberty. *See Bell v. Burson*, 402 U.S. 535, 542 (1971).

In *Fayerweather v. Ritch*, 195 U.S. 276, 307 (1904), the Court held that, as a matter of due process, no court may preclude a party from litigating an issue that had not been actually decided in a prior adjudication. The Court also confirmed that when evidence has been "offered at [a] prior trial upon several distinct issues, the decision of any one of which would justify the verdict or judgment, then the conclusion must be that the prior decision is not an adjudication upon any particular issue or issues, and the plea of res judicata must fail." *Id*. at 307.

Here, the lower court's ruling had the same effect. Its improper denial of a temporary injunction or stay without addressing the merits denied due process.

d. The Trial Court Failed to Address Mr. Rhine's Second Cause of Action, that Appellees Deprived Mr. Rhines of His Life and Liberty Interests Protected by the Due Process Clause of the U.S. Constitution and the South Dakota Constitution, A Cause of Action Upon Which Mr. Rhines is Likely to Succeed.

Mr. Rhines is likely to succeed on the merits of his cause of action alleging deprivation of due process. "Procedural due process constrains government decisions 'which deprive individuals of 'liberty' or 'property' interests within the meaning of the Due Process Clause of the Fifth or Fourteenth Amendment.'" *Kroupa v. Nielsen*, 731 F.3d 813, 818 (8th Cir. 2013) (quoting *Mathews v. Eldridge*, 424 U.S. 319, 332 (1976)). "'To establish a procedural due process violation, a plaintiff must demonstrate that he has a protected property or liberty interest at stake and that he was deprived of that interest without due process of law.'" *Osloond v. Farrier*, 659 N.W.2d 20, 24 (S.D. 2003) (quoting *Hopkins v. Saunders*, 199 F.3d 968, 975 (8th Cir. 1999) (citation omitted)). "[S]tate law may create a 'liberty interest' protected by the Fourteenth Amendment… [i]f, for example, a state statute gives 'specific directives to the decision maker that if the [statute's] substantive predicates are present, a particular outcome must follow,' a 'liberty interest' protected by the Fourteenth Amendment is created." *Bagley v. Rogerson*, 5 F.3d 325, 328 (8th Cir. 1993) (quoting *Kentucky Department of Corrections v. Thompson*, 490 U.S. 454, 463 (1989)); *see Hicks v. Oklahoma*, 447 U.S. 343, 346 (1980) (Oklahoma statute providing jury could impose a sentence of no fewer than 10 years in prison created a liberty interest protected by the 14th Amendment in defendant having the jury apply that sentence). To constitute a due process violation, the individual must have been deprived

of this right by a state actor. *See Osloond v. Farrier*, 659 N.W.2d 20, 24 (S.D. 2003)*; DeShaney v. Winnebago County Dep't of Soc. Servs*., 489 U.S. 189, 195, (1989).

After the State enacted SDCL § 23A-27A-32.1, Mr. Rhines had life and liberty interests that entitle him to be executed in the manner provided by South Dakota law at the time of his conviction or sentence. *See* SDCL § 23A-27A-32.1; *Ohio Adult Parole Auth. v. Woodard*, 523 U.S. 272, 289 (1998) (O'Connor, J.) ("A prisoner under a death sentence remains a living person and consequently has an interest in his life."). Here, in enacting SDCL § 23A-27A-32.1, the State of South Dakota created life and liberty interests that entitle Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence. *See* SDCL § 23A-27A-32.1. The South Dakota Legislature enacted this provision in February of 2007 and made no changes to it when the Legislature amended portions of § 23A-27A-32 in 2008.

At the time that Rhines was convicted and sentenced, in 1993, South Dakota law provided, in pertinent part, and unequivocally, that "[t]he punishment of death ***shall*** be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch.181 (emphasis added). The statute allows no discretion in the manner of execution, but rather gives specific directives as to the manner of execution. *See Bagley*, 5 F.3d at 328. Accordingly, SDCL § 23A-27A-32.1 and SL 1984, ch.181 create protected life and liberty interests in execution "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until

the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch.181.

As set forth in Secion I, *supra*, South Dakota Codified Law mandates that Rhines shall be executed in this manner if he chooses it more than seven days before his execution week, which he did. (Compl. ¶¶ 30, 31, Exhibits B, C to the Compl.) Based upon the foregoing, Rhines has demonstrated that he has protected life and liberty interests in being executed in the manner he has chosen arising from South Dakota Codified Law. *See Osloond*, 659 N.W.2d at 24.

The State cannot deprive Rhines of his life and liberty interests without due process of law to which he is entitled under the due process clauses of the Fourteenth Amendment of the United States Constitution and Article Six, Section 2 of the South Dakota Constitution. *See* U.S. Const. amend. XIV, § 1; S.D. Const. art. XI, § 2. Pentobarbital is neither an ultra-short-acting barbiturate nor a chemical paralytic. (Compl ¶ 36; Stevens Aff. ¶¶ 7, 8, 11.) Ultra-short-acting barbiturates include sodium methohexital and sodium thiopental. (Compl ¶ 35; Stevens Aff. ¶ 7.) By stating that Rhines will be executed using pentobarbital, which is not an ultra-short-acting barbiturate, the State is deliberately and intentionally depriving Rhines of his constitutionally protected life and liberty interests without due process of law. Based upon the foregoing, Rhines is likely to succeed on the merits of his Second Cause of Action.

The lower court's failure to adjudicate the merits of his due process claim and its improper application of res judicata to deny an injunction or a stay likewise denied due process. At its core, the Due Process Clause guarantees a party not only "the opportunity

to present his case," but also the right "to have its merits fairly judged." *Logan v. Zimmerman Brush Co.*, 455 U.S. 422, 433 (1982). Thus, to satisfy due process, a hearing must fairly and reliably establish all the facts that the relevant law requires before a person may be deprived of his life and liberty. *See Bell v. Burson*, 402 U.S. 535, 542 (1971). The lower court's improper denial of a temporary injunction or stay without addressing the merits did not comport with these principles.

II. THIS COURT HAS THE AUTHORITY TO STAY RHINES'S EXECUTION AND SHOULD EXERCISE IT HERE TO AVOID IRREMEDIABLE INJURY TO RHINES.

The Court should exercise its authority to stay Rhines's execution. If Mr. Rhines is executed pursuant to a procedure that does not accord with the law, it is axiomatic that the harm he will suffer is irreparable, because he will be dead. As the U.S. Supreme Court has recognized, "'[d]eath is a punishment different from all other sanctions in kind rather than degree." *Woodson v. North Carolina*, 428 U.S. 280, 303–04 (1976).

The trial court erred when it concluded that the irreparable harm prong neither favored Mr. Rhines nor the State. The harm Mr. Rhines seeks to avoid is an execution that violates the law that applies to his sentence. Rather than assessing the irreparability of the harm, the court simply summarized the State's arguments on the merits, which are irrelevant to this prong. *See supra* Section I.

Rhines's death by execution is an irremediable injury that should be avoided until this Court rules on whether the State's use of pentobarbital complies with Rhines's statutory rights under South Dakota law. If the State is permitted to execute Rhines using pentobarbital before this issue is decided, Mr. Rhines will be deprived of his statutory

right without any possible remedy. Therefore, this Motion for Stay of Execution should be granted.

III. THE BALANCE OF THE EQUITIES FAVORS A STAY.

In balancing the equities, the court reasoned that the DOC has "a strong interest in enforcing its criminal judgments," *see* Order at 10 (citing *Hill v. McDonough*, 547 U.S. 573, 584 (2006), and that there is a "strong equitable presumption" against stays where claims could have been brought earlier," *see* Order at 10–11 (quoting *Nelson v. Campbell*, 541 U.S. 637, 650 (2004)). *See also* Order at 11 (citing *Ledford v. Comm'r, Georgia Dep't of Corr.*, 856 F.3d 1312, 1319–20 (11th Cir. 2017); *Jones v. Allen*, 485 F.3d 635, 640 (11th Cir. 2007)).

As discussed *supra* Section I.a., Mr. Rhines could not have raised his issues earlier, has not delayed, and had no reason to think he needed to raise these issues earlier. Further, he had no reason to believe that he had a need to raise it. Appellees indicated in the 2011 protocol that they could use sodium thiopental if he elected the 2-drug protocol in effect at the that he was sentenced. Even as late as August of 2019 Appellees provided his counsel with information that suggested they possessed sodium thiopental. Mr. Rhines made his election in a timely manner and filed this suit promptly after the State, for the first time, notified him that it would violate the law.

Each of the federal cases cited by the trial court are inapposite. The petitioners in each case waited years after their claims were ripe before they filed suit. *See Hill*, 547 U.S. at 576–77; *Nelson*, 541 U.S. at 649; *Ledford*, 856 F.3d at 1315–16; *Jones*, 485 F.3d at 638–39. By contrast, Mr. Rhines filed a timely suit, shortly after his cause of action became ripe, and only after the state put him on notice, for the very first time, that it

would violate the law. Neither the delay nor the piecemeal litigation at issue in *McGehee v. Hutchinson*, 854 F.3d 488, 492 (8th Cir. 2017), is applicable to this current litigation. In *McGehee*, the petitioners filed suit in state court challenging the 2015 adoption of a method of execution under both the state and federal constitutions. *Id.* at 491. When the state removed to federal court, the petitioners voluntarily dismissed the case and filed a new action in state court, omitting the federal constitutional claim. *Id.* Only after losing the state constitutional challenge, and just three weeks before the first of eight executions scheduled in March 2017, the petitioners again brought a federal constitutional challenge to the 2015. *Id.*

Moreover, the Eighth Amendment challenges raised in each of these cases related to the amount of suffering the petitioners would experience when executed, not whether the execution was, itself, in violation of state law. Mr. Rhines's challenge, by contrast, seeks only to secure his right to be executed in accordance with the very statute that empowers the State to take his life. *Cf. Ericksen v. City of Sioux Falls*, 14 N.W.2d 89, 95 (S.D. 1944) (reasoning that a city "has no inherent powers and none of the attributes of sovereignty" and "possesses only such powers, great or small, as [the Constitution and statutes of the state] give it").

The State seeks to carry out the most solemn and irrevocable act of government without compliance with the statute that alone authorizes the DOC to take such an act. Any potential inconvenience of using the mandated drug does not counterbalance the harm that Mr. Rhines will suffer when he is executed in violation of the law, or the public interest in knowing that the DOC is conducting executions that are contrary to the authority granted to them by state statutes carefully outlined by its legislators.

IV. THE PUBLIC INTEREST FAVORS A STAY AND COMPLIANCE WITH THE STATUTES AT ISSUE.

As the trial court itself recognized, "[t]he public has a strong interest in making sure the State complies with laws passed by our legislature." Order at 11. "This interest is magnified when the State is carrying out the ultimate criminal penalty—death." Order at 11–12.

CONCLUSION

Mr. Rhines has met the requirements of a stay of execution and for this Court to reverse the trial court's order. For all the reasons set forth above, Mr. Rhines respectfully requests that the Court grant a stay of execution and issue a temporary restraining order, ordering that: (1) pentobarbital is neither an ultra-short-acting barbiturate nor a chemical paralytic agent; (2) the DOC is enjoined from executing Mr. Rhines with pentobarbital, and (3) the DOC shall execute Mr. Rhines only with an ultra-short-acting barbiturate (such as sodium methohexital or sodium thiopental) in combination with a chemical paralytic agent. In the alternative, Rhines requests an expedited hearing and a determination of the merits of his causes of action.

Ballard Spahr LLP

By: /s/ Daniel R. Fritz
Daniel R. Fritz
Timothy R. Rahn
101 South Reid Street, Suite 302
Sioux Falls, SD 57103
Telephone: (605) 978-5200
Attorneys for Appellants

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on November 1, 2019, two (2) true and correct copies of the foregoing *Motion for Stay of Execution* were served by prepaid U.S. Mail and electronic mail upon the following:

Jason R. Ravnsborg
Paul S. Swedlund
Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501-8501
(605) 773-3215
jason.ravnsborg@state.sd.us
paul.swedlund@state.sd.us

Ballard Spahr

/s/ Timothy R. Rahn
Timothy R. Rahn
Attorneys for Appellants

IN THE SUPREME COURT
OF THE
STATE OF SOUTH DAKOTA

CHARLES RUSSELL RHINES — Plaintiff and Appellant,

v.

SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, Secretary, South Dakota Department of Corrections, and DARIN YOUNG in his capacity as Warden of the South Dakota State Penitentiary — Defendant and Appellees.

App. No. _____
49CIV19-002940

Appeal from the Circuit Court, Second Judicial Circuit,
Minnehaha County, South Dakota

The Honorable Jon C. Sogn

APPELLANT'S BRIEF

Daniel R. Fritz
Timothy R. Rahn
Ballard Spahr LLP
101 South Reid St., Ste. 302
Sioux Falls, SD 57103
(605) 978-5200

Attorneys for Appellant and Plaintiff

Jason R. Ravnsborg
Paul S. Swedlund
Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501-8501
(605) 773-3215

Attorneys for Appellee and Defendant

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Federal Cases

State Cases

State Statutes

JURISDICTIONAL STATEMENT

The Plaintiff/Appellant Charles Russell Rhines (Rhines) appeals the Second Judicial Circuit's Memorandum Opinion and Order Denying an Application for a Temporary Restraining Order, Preliminary Injunction, and Stay of Execution, which was filed on October 31, 2019. Mr. Rhines timely filed a Notice of Appeal on October 31, 2019.

STATEMENT OF THE ISSUES

I. WHETHER THE TRIAL COURT ERRED IN DENYING AN APPLICATION FOR A TEMPORARY RESTRAINING ORDER, PRELIMINARY INJUNCTION, OR STAY OF EXECUTION.

Relevant Law:

SDCL § 23A-27A-32.1

SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984)

State v. Robert, 2012 S.D. 27, ¶ 9, 814 N.W.2d 122 (S.D. 2012)

Losee v. Hettich, 74 S.D. 461, 54 N.W.2d 353 (S.D. 1952)

Hendrickson v. Wagners, Inc., 1999 SD 74, ¶ 14, 598 N.W.2d 507 (S.D. 1999)

II. WHETHER RES JUDICATA APPLIES WHEN AN INDIVIDUAL INVOKES HIS STATUTORY RIGHTS UNDER SDCL 23A-27A-32.1 AND SL 1984, CH 181, BUT THE STATE, FOR THE FIRST TIME, REFUSES TO COMPLY WITH THE GOVERNING STATUTES.

Relevant Law:

SDCL § 23A-27A-32.1

SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984)

State v. Hammerquist, 67 S.D. 417, 293 N.W. 539 (S.D. 1940)

Boever v. S. Dakota Bd. of Accountancy, 526 N.W.2d 747 (S.D. 1995)

Lewton v. McCauley, 460 N.W.2d 728 (S.D. 1990)

Farmer v. S. Dakota Dep't of Revenue & Regulation, 2010 S.D. 35, 781 N.W.2d 655 (S.D. 2010)

III. WHETHER THE STATE IS VIOLATING MR. RHINES'S STATUTORY RIGHT TO BE EXECUTED WITH AN "ULTRA-SHORT-ACTING BARBITURATE" BY USING PENTOBARBITAL, WHICH IS NOT AN ULTRA-SHORT-ACTING BARBITURATE.

Relevant Law:

SDCL § 23A-27A-32.1

SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984)

Smith v. State, No. BDV-2008-303, 2015 WL 5827252 (Mont. Dist. Oct. 6, 2015).

IV. WHETHER THE STATE IS VIOLATING MR. RHINES'S FEDERAL RIGHTS UNDER THE DUE PROCESS CLAUSE TO THE U.S. CONSTITUTION.

Relevant Law:

Bagley v. Rogerson, 5 F.3d 325 (8th Cir. 1993)

Hicks v. Oklahoma, 447 U.S. 343 (1980)

Osloond v. Farrier, 659 N.W.2d 20 (S.D. 2003)

DeShaney v. Winnebago County Dep't of Soc. Servs., 489 U.S. 189 (1989)

Ohio Adult Parole Auth. v. Woodard, 523 U.S. 272, 289 (1998) (O'Connor, J.)

INTRODUCTION

This case asks the Court to enforce a set of clear statutory commands from the South Dakota legislature. Pursuant to Section 23A-27A-32.1 South Dakota Codified Laws, no less than seven days before a scheduled execution, a death-sentenced inmate who was convicted or sentenced prior to July 1, 2007 is entitled to elect to be executed in the manner set forth in South Dakota law at the time of his conviction or sentence. In 1993, South Dakota law provided that

the punishment of death "shall be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent…." SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984).

Appellant Charles Russell Rhines was sentenced to death in 1993 and has exercised his right to elect the manner of execution in place at that time, but the State notified him that it would inflict death with pentobarbital, a drug that is neither an "ultra-short-acting barbiturate" nor a chemical paralytic agent. Mr. Rhines therefore brings causes of action that arise out of his statutory rights, his exercise of those rights in accordance with the statutory requirements, and the State's refusal earlier this month to comply with the governing statutes.

The trial court did not reach the merits of this issue, but rather decided that Mr. Rhines's prior habeas litigation that had challenged a prior execution protocol on constitutional grounds likely preclude Mr. Rhines from now enforcing his statutory right. The facts the underlie the basis for the instant claims, however, did not exist at the time of the earlier litigation and only arose after Appellee South Dakota Department of Corrections ("DOC"), in response to Mr. Rhines's timely election and a subsequent letter from his attorneys, informed Mr. Rhines earlier this month that it would not comply with the statutory mandates.

Unlike any prior litigation, Mr. Rhines today seeks to enforce his state statutory rights. Every issue newly arises out of two statutes and an unforeseen event that occurred earlier this month: the State's refusal to comply with those statutes. This Court should grant Mr. Rhines the relief to which he is entitled to by statute: to be executed with an ultra-short-acting barbiturate and a stay to prevent the State from executing him with a drug that is not an ultra-short-acting barbiturate.

PERTINENT FACTUAL AND PROCEDURAL BACKGROUND

Mr. Rhines is a prisoner sentenced to death by the State of South Dakota, with an execution warrant setting his execution week as between November 3, 2019 and November 9, 2019. Mr. Rhines was sentenced to death on January 29, 1993.

Previously, in 2011, Mr. Rhines litigated whether the legislature's amendments to its execution statute in 2007 and the State's August 2011 protocol complied with the Eighth Amendment standards as set forth by the United States Supreme Court in *Baze v. Rees*, 533 U.S. 35 (2008). *See* Feb. 27, 2013, Op., Trimble, J.at 8. Judge Trimble ultimately determined that the protocol was sufficiently like *Baze* that it was constitutional on its face, *id.* at 10–12, and that South Dakota would implement its protocol in a constitutional manner. *Id.* at 12–18.

In 2018, Mr. Rhines challenged the State's creation of a new execution protocol without complying with the Administrative Procedure Act. *See Rhines v. S. Dakota Dep't of Corr.*, 2019 S.D. 59 (S.D. 2019).

Pursuant to Section 23A-27A-32.1 South Dakota Codified Laws, Mr. Rhines is entitled to elect to be executed in the manner set forth in South Dakota law at the time of his conviction or sentence. In 1993, South Dakota law provided that the punishment of death "shall be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent…." SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984).

As recently as August 2019, the State provided documents to Mr. Rhines's attorneys regarding sodium thiopental, a drug that is classified as an ultra-short-acting barbiturate with which the State could execute Mr. Rhines in compliance with its law. *See, e.g.*, Exhibit attached to 11/1/2019 Affidavit of Timothy Rahn. For example, in a letter dated April 17, 2012, the State wrote to the Food & Drug Administration and indicated that the State possessed sodium

thiopental. *Id.* The State "enclose[ed] the FDA's March 25, 2011, letter authorizing South Dakota's importation of sodium thiopental stock . . . ." *Id.* The State resisted a request from the Food & Drug Administration to "return . . . any foreign-manufactured thiopental . . . ." *Id.*

On October 1, 2019, Mr. Rhines exercised his statutory right to be executed according to the law in effect at the time of his sentence. He sent a Kite-Request Slip to Appellee Darin Young, Warden of the South Dakota State Penitentiary, electing to be executed in the manner that was in effect at the time that he was sentenced to death. In an amended Kite-Request Slip to Warden Young, dated October 4, 2019, Mr. Rhines reiterated his choice to be executed in the manner that was in effect at the time that he was sentenced to death, to wit, "[t]he Two Drug Protocol of a Lethal Dose of An Ultra-Short Acting Barbiturate and a Chemical Paralytic." Warden Young never responded to these requests and never indicated that the DOC would not comply with Mr. Rhines's election.

On October 15, 2019, attorneys for Mr. Rhines, emailed and mailed a letter to Warden Young, Jason R. Ravnsborg in his capacity as the Attorney General for the State of South Dakota, and Paul Swedlund, Assistant Attorney General. Counsel requested confirmation that Mr. Rhines's request to be executed by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent would be honored. In a letter dated October 17, 2019, Assistant Attorney General Swedlund advised counsel that he had received "Mr. Rhines' request for execution pursuant to the combination of drugs provided by statute at the time of his execution." Mr. Swedlund asserted that "State will follow the law." Mr. Swedlund further informed counsel that "[t]he ultra-short-acting barbiturate the state intends to use is pentobarbital."

On October 22, 2019, Rhines filed an action in the Circuit Court for the Second Judicial Circuit seeking injunctive and declaratory relief to enforce his statutory right under South Dakota law to be executed by the manner he chose.

Rhines's Complaint alleges four causes of action. The First Cause of Action, Violation of the Right to Choose the Manner of Execution Provided by Law at the Time of Sentence, alleges that, in enacting SDCL § 23A-27A-32.1, the State of South Dakota created a state statutory right that entitles Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence. (Compl. ¶¶ 39-44.) The manner of execution provided by South Dakota law at the time of Rhines's conviction and sentence was, in relevant part, "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch 181, codified at SDCL § 23A-27A-32 (1984.) Rhines exercised his right to choose the manner set forth in SL 1984, ch 181. (Compl. ¶ 44.) Rhines did so in accordance with the provisions of SDCL § 23A-27A-32.1. (*Id.*)

The Second Cause of Action, Deprivation of Due Process, alleged that in enacting SDCL § 23A-27A-32.1, the State of South Dakota created life and liberty interests that entitle Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence. (Compl. ¶¶ 51-54.) Rhines's life and liberty interests in being executed in this manner are protected by the Due Process Clause of the Fourteenth Amendment of the United States Constitution and the Due Process Clause of Article Six, Section 2 of the South Dakota Constitution. (*Id.* ¶¶ 55-56.)

The Third Cause of Action, Injunctive Relief, and the Fourth Cause of Action, Declaratory Judgment, sought injunctive and declaratory relief: (1) Staying Rhines's execution pending adjudication of this action; (2) declaring that pentobarbital is neither an ultra-short-acting barbiturate nor a chemical paralytic agent; (3) enjoining the State from executing Rhines with pentobarbital; and (4) ordering that the State shall execute Rhines only with an ultra-short-acting barbiturate, to wit, sodium methohexital or sodium thiopental, in combination with a chemical paralytic agent. (*Id.* ¶¶ 58-71.)

In light of Mr. Rhines's scheduled execution, he also filed an application for a preliminary injunction, temporary restraining order, or stay of execution to prohibit the State from executing him with pentobarbital and to order that the State shall execute Rhines only with an ultra-short-acting barbiturate in combination with a chemical paralytic agent. Rhines requested an expedited hearing on his application for a preliminary injunction so that the lower court could rule on the application in advance of the execution week beginning November 3, 2019.

The matter was assigned to Judge Jon C. Sogn who scheduled a hearing for October 29, 2019. Late in the evening of October 27, 2019, Assistant Attorney General Swedlund filed a Response to the Motion for Preliminary Injunction, Temporary Restraining Order, and Stay of Execution.

At the October 29, 2019 hearing, Judge Sogn heard argument from counsel and testimony from Dr. Craig Stevens, Ph.D, a professor of Pharmacology at Oklahoma State University. Dr. Stevens explained that barbiturates are classified as ultra-short-acting, short-acting, intermediate-acting, or long-acting. He is not aware of any peer reviewed articles or medical literature that

has ever classified pentobarbital as an ultra-short-acting barbiturate. He testified that in his expert opinion, pentobarbital is not an ultra-short-acting barbiturate.

Judge Sogn took the matter under advisement. He invited the parties to submit any additional argument, authority, or affidavits by the following afternoon. On October 30, 2019, Mr. Rhines filed a supplemental memorandum and an affidavit from attorney Fritz offering additional medical and pharmacological authority supporting the fact that pentobarbital is not an ultra-short-acting barbiturate.

Mr. Rhines submitted authoritative medical texts and articles that date back to before 1984, when the legislature wrote the statute at issue, that confirm Dr. Stevens's opinion. Mr. Rhines submitted other authorities specific to the field of anesthesiology and outside the field of pharmacology that likewise classify pentobarbital as a short-acting barbiturate. Further, Mr. Rhines directed the court's attention to manufacturers of pentobarbital that refer to it as a short-acting barbiturate.

The State made no additional formal filings, although it sent two short e-mails to Judge Sogn to reiterate one argument and to provide a citation for one additional case.

On October 31, 2019, the Second Judicial Circuit Court denied an application for a temporary restraining order and preliminary injunction, and declined to grant a stay of execution. Mr. Rhines filed a notice of appeal that same day.

In addressing whether Mr. Rhines was likely to succeed on the merits of this case, the trial court did not address whether pentobarbital was classified as an ultra-short-acting barbiturate in compliance with the relevant statute. Instead, the trial court held that Mr. Rhines's claims would likely be barred based upon res judicata. To the contrary, Mr Rhines could not have properly litigated this claim in earlier litigation because, as set forth below, Mr. Rhines's

prior litigation did not seek enforcement of his statutory rights. The trial court also asserted that Mr. Rhines's request for a stay should be denied because he should have litigated this issue earlier. But the statute at issue did not require Mr. Rhines to elect a method of execution until, at the latest, seven days prior to the execution. And Mr. Rhines did not have reason to believe that Appellees would not honor his request: Appellees had represented to Mr. Rhines's attorneys in August of 2019 that they had an ultra-short-acting barbiturate, sodium thiopental, and; the DOC protocol specifically contemplates executions using sodium thiopental.

Mr. Rhines now seeks a stay of execution pending appeal of that denial and files this emergency appeal to this Court.

STANDARD OF REVIEW

This Court reviews a denial of a temporary restraining order, a preliminary injunction, or a stay of execution for abuse of discretion. *Losee v. Hettich,* 74 S.D. 461, 54 N.W.2d 353 (1952). "An abuse of discretion can simply be an error of law or it might denote a discretion exercised to an unjustified purpose, against reason and evidence." *Hendrickson v. Wagners*, Inc., 1999 SD 74, ¶ 14, 598 N.W.2d 507, 511 (S.D. 1999) (citations omitted) (quoting *Knodel v. Kassel Township*, 1998 SD 73, ¶ 6, 581 N.W.2d 504, 506 (S.D. 1998)).

This Court reviews de novo questions of res judicata. *See Farmer v. S. Dakota Dep't of Revenue & Regulation*, 2010 S.D. 35, 781 N.W.2d 655, 659 (S.D. 2010).

This Court has an inherent power to preserve the status quo pending appeal. *Smith v. Reid*, 60 S.D. 128, 132–33, 244 N.W. 81, 83 (1932); *Gamet v. Allender*, 50 S.D. 150, 208 N.W. 782, 783 (1926). The staying of the execution of a condemned inmate comes within this Court's inherent authority to preserve the status quo. *State v. Robert*, 2012 S.D. 27, ¶ 9, 814 N.W.2d 122, 124-25 (S.D. 2012). This power "'should always be exercised when any irremediable

injury may result . . . .'" *Id*. (citing *Merrimack River Sav. Bank v. City of Clay Ctr*., 219 U.S. 527, 534–35, 31 S. Ct. 295, 296, 55 L. Ed. 320 (1911)). Failing to stay an execution "obviously result[s] in an irremediable injury." *State v. Robert*, 2012 S.D. 27, ¶ 9 (S.D. 2012).

ARGUMENT

I. MR. RHINES HAS DEMONSTRATED THE REQUISITE LIKELIHOOD OF SUCCESS ON THE MERITS TO JUSTIFY A STAY.

This action involves important issues regarding SDCL § 23A-27A-32.1, in which the State of South Dakota codified a statutory right that entitles Mr. Rhines to be executed in the manner provided by South Dakota law at the time of his conviction or sentence. In accordance with that statute, Mr. Rhines exercised his right to choose the manner set forth at the time of his sentence: execution by an ultra-short-acting barbiturate in combination with a chemical paralytic. The State then informed Mr. Rhines that it will use pentobarbital to execute him. Pentobarbital, as discussed *infra* Section I.b., is *not* an ultra-short-acting barbiturate or a chemical paralytic, however. By refusing to follow binding law, the DOC is depriving Rhines of his statutory right.

In deciding a stay motion, courts must decide whether a movant showed a likelihood of success on the merits. *See Strong v. Atlas Hydraulics, Inc.*, 2014 S.D. 69, ¶ 12, 855 N.W.2d 133, 139 (S.D. 2014); *Nelson v. Campbell*, 541 U.S. 637, 649-50 (2004). The likelihood of success does not mean that the inmate will probably win, but rather, that the inmate has shown a "significant possibility" of success. *Nooner v. Norris*, 491 F.3d 804, 808 (8th Cir. 2007) (citing *Hill v. McDonough*, 547 U.S. 573, 584 (2006)). Stays are not granted in instances in which the suit "amounts to little more than an attack on settled precedent" or is based on speculative theories. *See Bucklew v. Precythe*, 139 S. Ct. 1112, 1134 (2019).

a. Mr. Rhines Filed His Action Within Three Business Days of When It Presented a Concrete Case or Controversy With Ripe Issues.

In their response, Appellees raised a defense of res judicata. The trial court decided that Mr. Rhines had not demonstrated the requisite likelihood of success on his causes of action in light of that defense. *See* Order at 22. The heart of the trial court's analysis, however, is an erroneous conclusion it repeats throughout its order: that Mr. "Rhines challenged the exact protocol in 2011 [that] he is challenging now." Order at 21. That conclusion misconstrues the nature of Mr. Rhines's prior litigation in 2011 and this suit, and it misapplies the law of res judicata.

Unlike any prior litigation, Mr. Rhines today seeks to enforce his state statutory rights. His causes of action are rooted in SDCL § 23A-27A-32.1 and SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984), not the State's protocol. As discussed below, this case could not have presented any court with a justiciable case or controversy or any ripe issue until the DOC notified Mr. Rhines that it refused to comply with Mr. Rhines's statutory rights under SDCL § 23A-27A-32.1 and SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984).

The doctrine of res judicata bars any "attempt to relitigate a cause of action by the parties or one of the parties in privity to a party to an earlier suit." *Dakota Plains AG Ctr., LLC v. Smithey*, 772 N.W.2d 170, 179–80 (S.D. 2009) (quoting *Speck v. Federal Land Bank of Omaha*, 494 N.W.2d 628, 633 (S.D.1993)). "The doctrine 'embodies both merger and bar [.]'" *Id.*, *Black Hills Jewelry Mfg. Co. v. Felco Jewel Indus., Inc*., 336 N.W.2d 153, 157 (S.D.1983) (citing *Palma v. Powers*, 295 F.Supp. 924 (N.D.Ill.1969)). "'Res judicata serves as claim preclusion to prevent relitigation of an issue actually litigated or which could have been properly raised and determined in a prior action.'" *Id.* (quoting *Black Hills Jewelry Mfg. Co.*, 336 N.W.2d at 157).

Whether an issue could have been properly litigated in an earlier action requires consideration of whether the issue actually had been ripe for determination at the time of that earlier action. *See State v. Hammerquist*, 67 S.D. 417, 293 N.W. 539, 541 (S.D. 1940); *Danforth v. City of Yankton*, 25 N.W.2d 50 (S.D. 1946).

Ripeness involves the timing of judicial review and the principle that the judicial machinery should be conserved for problems that are real and present, not squandered on problems that are abstract, hypothetical, or remote. *Steinmetz v. State, State Star Academy*, 756 N.W.2d 392, 399 (S.D. 2008). For instance, issues that are "dependent upon the future occurrence of conduct and events that were uncertain and unknown" are unripe for judicial determination. *See Boever v. S. Dakota Bd. of Accountancy*, 526 N.W.2d 747, 750 (S.D. 1995). Issues, however, that are "imminent and inevitable" are ripe for review. *Id.* Courts should not render advisory opinions or decide theoretical questions when the future shows no indication of the invasion of a right. *Id.*

Here, as a threshold matter, the trial court misconstrued the nature of Mr. Rhines's causes of action by repeatedly describing them as a "challenge [to] the [execution]s protocol's compliance with the statutes [at issue]," and comparing it to Mr. Rhines's 2011 litigation. *See* Order at 16; *see also id.* at 17 ("Rhines could have and should have brought a specific challenge to the use of pentobarbital as part of his then-pending complaint . . . ."); *id.* at 21 ("Rhines challenged the exact protocol in 2011 as he is challenging it now."). The actual nature of Mr. Rhines's prior litigation and this litigation belie the trial court's analysis.

Earlier, in 2008, Mr. Rhines made constitutional challenges to the State's manner of execution. He sought a ruling that the Eighth Amendment barred "an execution carried out by means of [a] two drug cocktail provided in SDCL 23A-27A-32 in effect at the time of his

conviction" and "a declaration that SDCL 23A-27 A-32, as presently codified, and as applied to Rhines, constitute[d] an unconstitutional bill of attainder[,] an unconstitutional ex post facto law[,] and deprive[d] him of his right to due process of the law." Order at 13. The State adopted a new protocol in 2011, during that litigation, and Judge Trimble later denied relief for all of Mr. Rhines's claims. *See id.* at 13–14. In 2018, Mr. Rhines unsuccessfully challenged the current protocol's promulgation as in violation of the Administrative Procedures Act.

None of those challenges gave Mr. Rhines reason to believe that the State would not use an ultra-short-acting barbiturate if he exercised his statutory right that he seeks to enforce through this litigation. As of October 2019, by statute, Mr. Rhines had the right to elect his method of execution, either by the law currently in place, or by the law in place at the time of his conviction or sentence. The Legislature mandated that he make his election at least seven days prior to his scheduled execution. SDCL § 23A-27A-32.1. There is no dispute that Mr. Rhines complied with the statute governing his election. On October 1, 2019, more than a month before his scheduled execution, Mr. Rhines sent a Kite Request Slip to Darin Young, Warden of the South Dakota State Penitentiary, Mr. Rhines chose to be executed in the manner that was in effect at the time that he was sentenced to death.

Before October 17, 2019, there was no reason to believe that the State would do anything other than abide by the statutory requirement Mr. Rhines had elected, i.e., a lethal dose of an ultra-short acting barbiturate and chemical paralytic agent. The State has possessed an ultra-short-acting barbiturate, sodium thiopental, in the past. Further, the 2011 protocol contemplated the use of sodium thiopental in executions. But the State, on October 17, indicated it would not use sodium thiopental and, instead, advised counsel that "[t]he ultra-short-acting barbiturate the

state intends to use is pentobarbital." As discussed *infra* Section I.b., pentobarbital is not an ultra-short-acting barbiturate.

As a result, Mr. Rhines promptly initiated this new action to enforce his statutory rights *after* DOC notified him that it would violate his statutory rights for the very first time. The causes of action in this case therefore arise out of the State's refusal to comply with Mr. Rhines's proper statutory election and events that culminated in the State's mailing of a letter that it would use a short-acting or intermediate-acting barbiturate, but not an ultra-short-acting one. Any litigation therefore was contingent upon the state notifying Mr. Rhines that it was refusing to comply with the statutes at issue. At no earlier point in time did Mr. Rhines "ha[ve] a 'full and fair opportunity to litigate'" these causes of action, let alone "a controversy in which a claim of right is asserted against one who has an interest in contesting it." Order at 19 (quoting *Boever v. South Dakota Bd. Of Accountancy*, 526 N.W.2d 747, 750 (S.D. 1975). Nor were the issues being litigated here previously "ripe for judicial determination." *Id.* (quoting *Boever*, 526 N.W.2d at 750).

For example, the trial court relied on *Lewton v. McCauley*, 460 N.W.2d 728, 730 (S.D. 1990), and *Farmer v. S. Dakota Dep't of Revenue & Regulation*, 2010 S.D. 35, 781 N.W.2d 655 (S.D. 2010), to apply *res judicata* against Mr. Rhines, but these cases support Mr. Rhines's position that *res judicata* is not implicated here. In *Lewton*¸ this Court found that when facts arise after initial litigation is terminated, and those facts underlie new claims, the doctrine of *res judicata* does not apply. *Letwon*, 460 N.W.2d at 731. If facts "did not exist at the time" of the earlier litigation, *res judicata* cannot be a bar to subsequent litigation. *Id.* By contrast, where a party has "a full and fair opportunity to litigate" its claims in an earlier proceeding, *res judicata*

will apply. *Farmer,* 781 N.W. 2d at 661. This Court cautioned that "we should not" "interpret[] the doctrine of res judicata too broadly[.]" *Lewton,* 460 N.W.2d at 730.

If anything, the State's Notice of Adoption of Revised Execution Policy and Protocol dated October 24, 2011, put Mr. Rhines on notice that the DOC ***would*** comply with the law in effect in 1993 if Mr. Rhines so elected, not that it would disregard the statute's plain language. Specifically, the protocol provided that an inmate "shall be executed using the 3- or 1-Drug protocol provided in this document . . . unless the inmate requests in writing . . . that the inmate wishes to be executed by the 2-Drug protocol set forth herein *in accordance with South Dakota law as it existed* prior to July 1, 2007." State's Exhibit 1 at page 3 (emphasis added). This language *imposes a limitation on* the protocol's application to ensure compliance with statutory law as it existed prior to July 2007, i.e., the 1984 statute in this case. Implementation of the 2-drug protocol "in accordance with South Dakota law" requires the DOC to use an ultra-short-acting barbiturate, like thiopental, which, the protocol provides, is indeed an option for use in the execution. Thus, on the face of the Notice, Mr. Rhines had no reason to believe that, if he elected that option, the DOC would fail to comply with the South Dakota law as it existed prior to July 1, 2007 by using an ultra-short-acting barbiturate, because (1) sodium thiopental was an option in the Notice and (2) it stated that Defendants would follow the pre-2007 law.

Although Mr. Rhines's attorneys made this very point in oral argument, the trial court failed to cite this critical portion of the protocol that imposes a *limitation* on the state. Instead, the trial court quoted only a different portion of that paragraph. *See* Order at 13–14. The trial court erroneously gave weight to the fact that the 2011 protocol "listed pentobarbital as one of two drugs that could be administered in the 2-drug protocol." Order at 17. The protocol also listed thiopental, and did not "contain[] explicit notice of the State's intention to use

pentobarbital . . . ." *See* Order at 16. There would have been no foreseeable, let alone ripe, issue regarding the State's use of pentobarbital unless and until the State indicated it would use that drug on an individual sentenced in 1993 who had elected to be executed in the manner required by law in 1993, thus, that the State would not in fact act "in accordance with South Dakota law [in 1993]."

Similarly, this Court should reject the trial court's reasoning that would have required Mr. Rhines to litigate this issue on the *belief* that the State would violate the law by failing to comply with the 1984 statute. The trial court relied on *Boever*, but the *Boever* Court addressed two issues: (1) a challenge involving a quality reviews mandated by statute to occur every three years and (2) a challenge involving a statute that imposes discipline under certain circumstances. *See Boever v. S. Dakota Bd. of Accountancy*, 526 N.W.2d 747, 749–51 (S.D. 1995). The former challenge was ripe, because the issues were "'*imminent and inevitable*.'" Order at 20–21 (quoting *Boever*, 526 N.W.2d at 750) (emphasis added).

Here, however, the State's use of a drug that would violate the 1984 statute was not "bound to happen." In fact, to apply that analysis here, this Court would have to agree that the DOC's refusal to follow the law was "imminent and inevitable." Such a conclusion requires a degree of skepticism about the DOC's responsibilities that this Court should reject. As noted above, the 2011 protocol's own language demonstrates the DOC's recognition of a need to comply with statutory law. Mr. Rhines's action therefore "was dependent upon the future occurrence of conduct and events that were *uncertain and unknown*," like the "likelihood of future discipline" in *Boever*, and res judicata does not apply. *Id.* at 750.

Moreover, that the DOC included pentobarbital as one of the two possible drugs it would use in its 2011 two-drug protocol is not relevant here. Mr. Rhines is not challenging alternate

possibilities presented in that protocol here. His causes of action arise out of two statutes—SDCL § 23A-27A-32.1 and SDCL § 23A-27A-32.1 and SL 1984, ch 181, codified at SDCL 23A-27A-32 (1984)—and the State's refusal to comply with those statutes, not the State's protocol. The trial court also appears to treat *notice* of *possible* State action as sufficient to confer standing and make the issues in this case ripe, going so far as to conclude that, "[b]ecause the . . . prior litigation specifically talked about both drugs [(pentobarbital and thiopental)], the protocol, and the statute, Rhines was bound to bring the claims at that time." *See* Order at 16 (reasoning that "Rhines was put on notice of the adoption and revision of the protocol."). Yet a State's "talk[ing] about" multiple options does not create a justiciable case or controversy or a make a possible issue ripe for judicial determination.

In fact, as recently as August 2019, the State provided documents to Mr. Rhines's attorneys regarding thiopental, a drug that actually is an ultra-short-acting barbiturate with which the State could execute Mr. Rhines in compliance with state law. *See, e.g.*, Exhibit attached to 11/1/2019 Affidavit of Timothy Rahn. One of those documents is a letter dated April 17, 2012, in which the Office of the Attorney General of South Dakota wrote to the Food & Drug Administration. *See id.* The Attorney General indicated that the State possessed thiopental and "enclose[ed] the FDA's March 25, 2011, letter authorizing South Dakota's importation of sodium thiopental stock . . . ." *Id.* The State resisted a request from the Food & Drug Administration to "return . . . any foreign-manufactured thiopental . . . ." *Id.*

If Appellees were not prepared to comply with statute they could have, at any time, either sought an amendment to SDCL § 23A-27A-32.1 or could have sought relief from the court from compliance with the statute. They did not.

In sum, before October 2019, any issues concerning the State's willingness to follow the law in effect at the time of Mr. Rhines's sentence would have been based on speculation about future actions that may or may not occur. Those issues were not ripe at that time and, thus, res judicata does not bar this action. Accordingly, this Court should reverse the trial court's order and grant Mr. Rhines the relief he seeks: to be executed with an ultra-short-acting barbiturate and a stay to prevent the State from executing him with a drug that is not an ultra-short-acting barbiturate.

b. The Trial Court Fails to Address Mr. Rhines's First Cause of Action, that Appellees Violated His Statutory Rights, A Cause of Action Upon Which Mr. Rhines is Likely to Succeed.

Affirming the trial court's ruling would permit the DOC to violate the plain language of binding statutory law. The trial court did not address this issue, but Mr. Rhines clearly met his burden to justify temporary relief or, in the alternative, final judgment requiring the DOC to comply with the law.

Mr. Rhines is likely to succeed on the merits of his cause of action alleging a violation of state statutory law. The plain language of the statutes at issue is clear. In enacting SDCL § 23A-27A-32.1, the State of South Dakota entitled Rhines to be executed in the manner provided by South Dakota law at the time of his conviction or sentence. *See* SDCL § 23A-27A-32.1.

In the trial court, Rhines relied on the unambiguous language of the execution statute at the time of his conviction and sentence. At the time of his conviction and sentence, the execution statute used the precise term "ultra-short-acting barbiturate" as the necessary first drug in an execution. SL 1984, ch 181, codified at SDCL § 23A-27A-32 (1984). "The intent of a statute is determined from what the legislature *said, rather than what the courts think it should have said,* and the court must confine itself to the language used. Words and phrases in a statute

must be given their plain meaning and effect." *Rhines v. S. Dakota Dep't of Corrs.*, 2019 S.D. 59, ¶ 13 (2019) (emphasis added).

That term "ultra-short-acting barbiturate" had, and continues to have, a clear meaning, as demonstrated by substantial evidence in the record before this Court. Pentobarbital, which the state has indicated it plans to use as an "ultra-short-acting barbiturate," is not classified as an ultra-short-acting barbiturate.

i. The State Is Violating Its Statutory Obligation to Execute Rhines with an Ultra-Short-Acting Barbiturate in Combination with a Chemical Paralytic Agent.

The plain language of the statutes at issue is clear. SDCL § 23A-27A-32.1 entitles Mr. Rhines to be executed in the manner provided by South Dakota law at the time of his sentence. *See* SDCL § 23A-27A-32.1. The South Dakota Legislature enacted this provision in February of 2007 and made no changes to it when the Legislature amended portions of § 23A-27A-32 in 2008.

When Mr. Rhines was convicted and sentenced, in 1993, South Dakota law provided, in pertinent part, and unequivocally, that "[t]he punishment of death *shall* be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch. 181 (emphasis added). The statute allows no discretion in the manner of execution, but rather gives specific directives as to the manner of execution. Accordingly, SDCL § 23A-27A-32.1 and SL 1984, ch. 181, codify a right to an execution "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent." SL 1984, ch. 181.

Pursuant to the SDCL § 23A-27A-32.1, Mr. Rhines shall be executed in this manner if he "choose[s] by indicating in writing to the warden not less than seven days prior to the scheduled week of execution the manner of execution chosen." SDCL § 23A-27A-32.1. Mr. Rhines chose to be executed in this manner—more than 4 weeks prior to the week of his execution—in a written Kite-Request Slip dated October 1, 2019, addressed to Defendant Young, and in an amended written Kite-Request Slip dated October 4, 2019, addressed to Defendant Young. (Compl. ¶¶ 30, 31, Exhibits B, C to the Compl.) Based upon the foregoing, Mr. Rhines has demonstrated that he has a right to be executed in the manner he has chosen arising from South Dakota Codified Law.

The DOC cannot deprive Rhines of his right to be executed in the manner of his choice. The DOC, however, has taken the position that pentobarbital is an ultra-short-acting barbiturate. (Compl. ¶ 34, Exh. E to the Compl.) The DOC's assertion is erroneous and contradicted by substantial record evidence, as discussed in more detail below. Pentobarbital is not an ultra-short-acting barbiturate. (Compl. ¶ 36; Stevens Aff. ¶¶ 7, 8.) Ultra-short-acting barbiturates include sodium methohexital and sodium thiopental. (Compl. ¶ 35; Stevens Aff. ¶ 7.) The statute's plain language requires that the State use an ultra-short-acting barbiturate. By refusing to guarantee that Rhines will be executed in the manner set forth in SL 1984, ch. 181, the State is depriving Rhines of his state statutory right codified and protected by SDCL § 23A-27A-32.1, and SL 1984, ch. 181.

This case is analogous to *Smith v. State*, No. BDV-2008-303, 2015 WL 5827252 (Mont. Dist. Oct. 6, 2015) (Exh. A to the Compl.). In *Smith*, the Court addressed a similar Montana law that provided "[t]he punishment of death must be inflicted by administration of a continuous, intravenous injection of a lethal quantity of an ultra-fast-acting barbiturate in combination with a

chemical paralytic agent until a coroner or deputy coroner pronounces that the defendant is dead." *Id.* at *1. However, the State of Montana intended to execute Smith using pentobarbital, which, Smith argued, is not an ultra-fast-acting barbiturate. *Id.* After a trial, the court concluded, among other things, that pentobarbital is not an ultra-fast-acting barbiturate and enjoined the State of Montana from executing Smith using pentobarbital. *Id.* at *6. The court credited the fact that "the terms ultra-fast and ultra-short refer to the same type of barbiturates, as do the terms fast and short, and as do the terms slow and long." *Id.* at *3.

The Montana statute at issue in *Smith* and SL 1984, ch. 181, are nearly verbatim. The evidence presented by Mr. Rhines demonstrates, as was demonstrated in *Smith*, that pentobarbital is not an ultra-short-acting barbiturate. Thus, just as Smith succeeded on the merits of his claims, Mr. Rhines is likely to succeed on the merits of his.

ii. Overwhelming Evidence Confirms that Pentobarbital Is Not an Ultra-Short-Acting Barbiturate.

The evidence presented at the hearing overwhelmingly shows that pentobarbital is not an ultra-short-acting barbiturate. Dr. Craig Stevens, a professor of pharmacology at Oklahoma State University, testified and explained that barbiturates are classified as either ultra-short-acting, short-acting, intermediate-acting, or long-acting, depending upon their chemical properties. The relevant property is lipid solubility. The most lipid-soluble barbiturates are sodium thiopental and methohexital, which are thus classified in the literature as ultra-short-acting. Pentobarbital is less lipid-soluble than sodium thiopental and methohexital to a significant degree and is classified as a short-acting barbiturate.

Barbiturates' lipid solubility does not change depending upon the dose or setting. Dr. Stevens is not aware of any peer-reviewed articles or medical literature that has ever classified

pentobarbital as an ultra-short-acting barbiturate. He testified unequivocally that pentobarbital is not classified as an ultra-short-acting barbiturate.

Dr. Stevens's opinion is consistent with authoritative medical texts and articles that date back to before 1984, when the legislature wrote the statute at issue. *See, e.g.*, Linda Lilley, et al., Pharmacology and the Nursing Process 189 (9th ed. 2020) (including classification chart listing thiopental as ultrashort-acting barbiturate and pentobarbital as short-acting barbiturate); PHARMACOLOGY 111 fig. 9.7 (Richard A. Harvey & Pamela C. Champe eds.) (4th ed. 2009) (classifying pentobarbital as short-acting and thiopental as ultra-short-acting); Carl Burtis, et al., Tietz Textbook of Clinical Chemistry and Molecular Diagnostics 1325-26 & Table 34.10 (4th ed. 2006) (identifying thiopental as ultrashort-acting barbiturate and pentobarbital as short-acting barbiturate); Francisco López-Muñoz, et al., The History of Barbiturates a Century After Their Clinical Introduction, NEUROPSYCHIATRIC DISEASE AND TREATMENT, Vol. 1(4), 329-43, Table 3 (Dec. 2005) (reproducing table from 1983 classifying pentobarbital as short-acting and thiopental as ultrashort-acting); *see also* 1 Lawyers' Guide to Medical Proof § 106.02 (2019) (listing ultrashort-acting barbiturates "in current medical use" as methohexital, thiamylal, and thiopental, and listing pentobarbital among the short-acting and intermediate-acting barbiturates); 9 Attorneys Textbook of Medicine (Third Edition) P. 51.10 (2019) (listing ultrashort-acting barbiturates as thiopental, thiamylal and methohexital); 12-256-9A Courtroom Medicine Series: Psychic Injuries § 9A.50 ("Ultra-short-acting barbiturates include thiopental (half-life of 6 to 46 hours; Schedule III) and methohexital (1 to 2 hours; Schedule IV); the short-acting group includes pentobarbital (Nembutol; 15 to 48 hours; Schedule II; III) . . . .").

The affidavit of Dr. Antognini, submitted by the State, does not contradict this. While it suggests that the duration of pentobarbital's effects changes with a larger dose, he significantly

omits any conclusion that pentobarbital is or has ever been classified as an ultra-short-acting barbiturate. Moreover, courts have found that Dr. Antognini's opinions in the death penalty context are "shown to be an outlier in the field of anesthesiology." *In re Ohio Execution Protocol Litigation*, 2019 WL 244488 at * 62 (S.D. Oh. January 14, 2019) (slip opinion). Appellees were provided with an opportunity to provide a supplemental affidavit to contradict Dr. Stevens testimony, and Appellees failed to do so.

At the hearing, the State asserted that the fact that pentobarbital is sometimes classified as short-acting or intermediate-acting is proof that classifications can change. This assertion only stands for the idea that pentobarbital falls in the middle range. It does not mean, and the State failed to submit any evidence to support a conclusion, that the classification of pentobarbital has ever been ultra-short-acting. The classification of barbiturates as "ultra-short-acting" is the only issue to which the legislature has directed the State and this Court.

The State also suggested—without any evidence—that anesthesiologists do not categorize barbiturates in the same manner as pharmacologists do. To the contrary, the court in *Smith*, cites Margaret Wood and Alistair J.J. Wood's text, I (2d. ed.,Williams & Wilkins 1989), in support of the statement that "[b]arbiturates are traditionally classified as long-acting (phenobarbital), medium-acting (such as pentobarbital), short-acting (secobarbital), and ultra-short-acting (thiopental)." *Smith*, 2015 WL 5827252, at *2. The State has cited an article on neurosurgical anesthesia to support its argument, *see* Response Mot. Prelim. Inj. 14, but that article itself recognizes that pentobarbital is not an ultra-short-acting barbiturate: "[L]ittle is known about the hemodynamic effects of pentobarbital in humans, at least when given in the doses needed for neurosurgical purposes. *This contrasts with the large body of data concerning the effects of the ultrashort-acting anesthetic barbiturates such as thiopental*."). Todd,

Drummond and Sang, Hemodynamic Effects of High Dose Pentobarbital: Studies in Elective Neurosurgical Patients, 20 NEUROSURGERY 559 (1987) (emphasis added).

Other authorities specific to the field of anesthesiology and outside the field of pharmacology likewise classify pentobarbital as a short-acting barbiturate. *See, e.g.*, Helen Lamb, The barbiturates: with particular reference to their use in anesthesia. Bulletin of the American Association of Nurse Anesthetists. 1943;12(4): 228-29 (identifying pentobarbital as a barbiturate "of moderate duration" while identifying evipal, pentothal, and thio-ethymal as "ultra-short-acting barbiturates"); Torben Seear, Pentobarbital Anesthesia in Labor, M.D. American Journal Of Obstetrics And Gynecology, Vol. 99, Issue 7, p. 955 (Dec. 1967) ("Pentobarbital is a short-acting, but not ultrashort-acting barbiturate."); Bryson, Peter D. *Comprehensive Review in Toxicology for Emergency Clinicians* 464 (3d. ed. 1996) (classifying Pentobarbital in the "Short – and Intermediate-acting" Barbiturate classification as opposed to the "Ultrashort-acting" classification); Sandra J. Cunningham & Waseem Hafeez, "Procedural Sedation and Pain Management Techniques," Textbook of Pediatric Emergency Procedures 423 (Christopher King & Fred M. Henretig eds., 2d ed. 2008) (identifying pentobarbital as "a short-acting barbiturate," as opposed to methohexital which is an "ultrashort-acting barbiturate").

Further, manufacturers of pentobarbital refer to it as a short-acting barbiturate. Not only does the FDA-approved branded manufacturer's insert for Nembutal Sodium Solution, which is the manufacturer's name for pentobarbital, state: "NEMBUTAL Sodium is a short-acting barbiturate," (Fritz Exh. 4), but the manufacturers for generic pentobarbital, Sagent and Leucadia, similarly state that pentobarbital is a short-acting barbiturate. *See* https://www.sagentpharma.com/wp-content/uploads/2017/11/Pentobarbital_PI-Revised.pdf; http://leucadiapharma.com/wp-content/uploads/2018/02/Pentobarbital_PI_Art_Clean.pdf.

The State repeatedly mischaracterized testimony on the classification of barbiturates from a different expert, Dr. Mark Heath, in different litigation. Dr. Heath's testimony supports Rhines's position. Dr. Heath used the terms "ultra-short" and "ultra-fast" interchangeably, and he consistently referred to that category of barbiturates in "*contrast*" with pentobarbital. *Compare* State's Exhibit 8 at transcript page 21–22 ("I'll just start by comparing ultra-short and ultra-fast-acting barbiturates which will enter the brain very quickly in a matter of tenths of seconds, and will also leave the brain very quickly . . . . and those drugs would be the class of drug would be thiopental, for example, and another would be a drug called methohexital.") *with id.* at transcript page 22 ("*By contrast*, pentobarbital is slower to take effect and lasts for longer." (emphasis added)).

The State pulled quotations out of context, but even these quotations never established that this different expert classified pentobarbital as "ultra-short-acting." *See, e.g.*, State's Exhibit 11 at transcript page 90 (explaining that the line dividing ultrafast from fast-acting barbiturates "is really a molecular line. . . . . [Molecular] modifications have created a class unto itself."). The State goes so far as to repeatedly cite the expert's testimony in *Smith*, the very premise of which was that pentobarbital is not an ultra-short-acting barbiturate. Thus, that there are "different ways" to classify barbiturates does not change that Dr. Heath never placed pentobarbital in any sort of "ultra-short" or "ultra-fast" category. *See* State's Exhibit 8 at transcript page 21.

Consistent with this evidence, numerous cases have recognized that pentobarbital is not classified as an ultra-short-acting barbiturate. *See McGehee v. Texas Dep't of Criminal Justice*, No. MC H-18-1546, 2018 WL 3996956, at *2 (S.D. Tex. Aug. 21, 2018) ("Testimony in other cases has established that pentobarbital is 'not classified as an ultra-short-acting barbiturate.' *Mann v. Palmer*, 713 F.3d 1306, 1313 (11th Cir. 2013)."); *Bible v. Davis*, No. 4:18-CV-1893,

2018 WL 3068804, at *1 (S.D. Tex. June 21, 2018) ("Pentobarbital is an intermediate-acting barbiturate") (internal quotation omitted), aff'd, 739 F. App'x 766 (5th Cir. 2018); *West v. Schofield*, 519 S.W.3d 550, 553 (Tenn. 2017) (stating that pentobarbital is "described in [Tennessee's execution] Protocol as 'an intermediate-acting barbiturate'") (internal brackets omitted); *Grayson v. Warden, Comm'r, Alabama State*, 869 F.3d 1204, 1210 (11th Cir. 2017) (describing "pentobarbital, [as] a short-acting barbiturate sedative") (internal quotation marks omitted); *West v. Warden, Comm'r, Alabama State*, 869 F.3d 1289, 1292 (11th Cir. 2017) (describing "pentobarbital, [as] a short-acting barbiturate sedative") (internal quotation marks omitted); *Whitaker v. Livingston*, No. CV H-13-2901, 2016 WL 3199532, at *1 (S.D. Tex. June 6, 2016) ("Pentobarbital is an intermediate-acting barbiturate."), *aff'd sub nom. Whitaker v. Collier*, 862 F.3d 490 (5th Cir. 2017); *Smith v. Montana*, No. BDV-2008-303, 2015 WL 5827252, *2 (Oct. 6, 2015) ("Barbiturates are traditionally classified as long-acting (phenobarbital), medium-acting (such as pentobarbital), short-acting (secobarbital), and ultra-short-acting (thiopental).") (Exh. A to the Compl.); *Trottie v. Livingston*, No. CV 4:14-2550, 2014 WL 12527181, at *2 (S.D. Tex. Sept. 5, 2014) ("pentobarbital . . . is an intermediate-acting barbiturate.") (internal quotation omitted); *Arthur v. Thomas*, 974 F. Supp. 2d 1340, 1345 (M.D. Ala. 2013) ("Sodium thiopental is classified as an 'ultra-short acting barbiturate,' while pentobarbital is an 'intermediate-acting barbiturate.' As these classifications indicate, sodium thiopental has an extremely rapid onset of effect and subsequent recovery, while pentobarbital is slower and longer-acting."); *Arthur v. Thomas*, 674 F.3d 1257, 1274 (11th Cir. 2012) ("sodium thiopental is 'ultrashort-acting,' while pentobarbital is 'intermediate-acting'") (internal quotation and citation omitted); *Powell v. Thomas*, 643 F.3d 1300, 1304 (11th Cir. 2011) ("sodium thiopental is 'ultrashort-acting,' while pentobarbital is 'intermediate-acting'") (internal quotation

and citation omitted); *In re Jacoby Airplane Crash Litig*., No. CIV.99-6073 (HAA), 2007 WL 5037683, at *22 (D.N.J. Aug. 27, 2007) ("The ultrashort-acting barbiturates produce anesthesia within about one minute after intravenous administration.... Barbiturate abusers prefer the Schedule II short-acting and intermediate-acting barbiturates that include amobarbital (Amyta®), pentobarbital (Nembutal®), secobarbital (Seconal®), and Tuinal (an amobarbital/secobarbital combination product).") (internal quotation and citation omitted). Nearly all of these cases arose in the lethal injection context thus belying the State's suggestion that pentobarbital's classification changes to ultra-short-acting when it is used in lethal doses for execution.

The State cited cases that, it claimed, indicate the absence of a difference between sodium thiopental and pentobarbital. As described during the hearing, those cases arose in the context of Eighth-Amendment or constitutional challenges focused on various execution protocols' likelihood to produce unnecessary suffering. Not one of these cases states that pentobarbital ever has been classified as an ultra-short-acting barbiturate, the only issue before this Court. In fact, undersigned counsel is aware of no case that identifies pentobarbital as an ultra-short-acting barbiturate.

The legislature used plain language in the statutes at issue. The DOC must follow that language. Just as the *Smith* court held, had the legislature intended to give the State of South Dakota latitude in what drugs to use, it could have used much more general language in the statute authorizing execution. Instead of "ultra-short-acting barbiturate," the legislature could have said "intermediate- or short-acting barbiturates in doses that have the effect of ultra-short-acting barbiturates." Indeed, it later amended the statute to read "a substance or substances in a lethal quantity." SDCL 23A-27A-32.

Courts may not legislate through judicial interpretation of statutes, and this Court should grant a stay of execution to correct the trial court's error and ensure that the DOC follows the clear mandate of the legislature.

The State's assertion that the legislature intended to use the term "ultra-short-acting barbiturate" as "limited to its properties as a lethal agent" has no basis in the text of the statute. It amounts to post hoc speculation by the State to justify its choice of pentobarbital.

Three additional reasons undermine the State's attempt to legislate through this Court. First, if the State's interpretation were correct, it would render meaningless the legislature's subsequent decision to remove the phrase "ultra-short-acting barbiturate" and replace it with "substance or substances in a lethal quantity." *See* SDCL 23A-27A-32. Second, even before 1984, the term ultra-short-acting barbiturate had a well-known and well-defined meaning that did not include pentobarbital. Francisco López-Muñoz, et al., The History of Barbiturates a Century After Their Clinical Introduction, NEUROPSYCHIATRIC DISEASE AND TREATMENT, Vol. 1(4), 329-43, Table 3 (Dec. 2005) (reproducing table from 1983 classifying pentobarbital as short-acting and thiopental as ultrashort-acting). Third, the statute expressly references "standards of medical practice," indicating that it did not legislature in a vacuum, let alone the State's speculative "lethal agent" vaccum. *See* SL 1984, ch. 181, codified at SDCL § 23A-27A-32 (1984). ("The punishment of death shall be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice.").

c. The Trial Court's Failure to Adjudicate the Merits of Mr. Rhines's Due Process Claim and its Improper Application of Res Judicata to Deny an Injunction or a Stay Denied Mr. Rhines Due Process Under the US Constitution.

The lower court's failure to adjudicate the merits of his due process claim and its improper application of res judicata to deny an injunction or a stay likewise denied due process guaranteed by the Fourteenth Amendment of the U.S. Constitution. At its core, the Due Process Clause guarantees a party not only "the opportunity to present his case," but also the right "to have its merits fairly judged." *Logan v. Zimmerman Brush Co*., 455 U.S. 422, 433 (1982). Thus, to satisfy due process, a hearing must fairly and reliably establish all the facts that the relevant law requires before a person may be deprived of his life and liberty. *See Bell v. Burson*, 402 U.S. 535, 542 (1971).

In *Fayerweather v. Ritch*, 195 U.S. 276, 307 (1904), the Court held that, as a matter of due process, no court may preclude a party from litigating an issue that had not been actually decided in a prior adjudication. The Court also confirmed that when evidence has been "offered at [a] prior trial upon several distinct issues, the decision of any one of which would justify the verdict or judgment, then the conclusion must be that the prior decision is not an adjudication upon any particular issue or issues, and the plea of res judicata must fail." *Id*. at 307.

Here, the lower court's ruling had the same effect. Its improper denial of a temporary injunction or stay without addressing the merits denied due process.

d. The Trial Court Failed to Address Mr. Rhine's Second Cause of Action, that Appellees Deprived Mr. Rhines of His Life and Liberty Interests Protected by the Due Process Clause of the U.S. Constitution and the South Dakota Constitution, A Cause of Action Upon Which Mr. Rhines is Likely to Succeed.

Mr. Rhines is likely to succeed on the merits of his cause of action alleging deprivation of due process. "Procedural due process constrains government decisions 'which deprive individuals of 'liberty' or 'property' interests within the meaning of the Due Process Clause of the Fifth or Fourteenth Amendment.'" *Kroupa v. Nielsen*, 731 F.3d 813, 818 (8th Cir. 2013) (quoting *Mathews v. Eldridge*, 424 U.S. 319, 332 (1976)). "'To establish a procedural due process violation, a plaintiff must demonstrate that he has a protected property or liberty interest at stake and that he was deprived of that interest without due process of law.'" *Osloond v. Farrier,* 659 N.W.2d 20, 24 (S.D. 2003) (quoting *Hopkins v. Saunders*, 199 F.3d 968, 975 (8th Cir. 1999) (citation omitted)). "[S]tate law may create a 'liberty interest' protected by the Fourteenth Amendment… [i]f, for example, a state statute gives 'specific directives to the decision maker that if the [statute's] substantive predicates are present, a particular outcome must follow,' a 'liberty interest' protected by the Fourteenth Amendment is created." *Bagley v. Rogerson,* 5 F.3d 325, 328 (8th Cir. 1993) (quoting *Kentucky Department of Corrections v. Thompson*, 490 U.S. 454, 463 (1989)); *see Hicks v. Oklahoma*, 447 U.S. 343, 346 (1980) (Oklahoma statute providing jury could impose a sentence of no fewer than 10 years in prison created a liberty interest protected by the 14th Amendment in defendant having the jury apply that sentence). To constitute a due process violation, the individual must have been deprived of this right by a state actor. *See Osloond v. Farrier,* 659 N.W.2d 20, 24 (S.D. 2003)*; DeShaney v. Winnebago County Dep't of Soc. Servs.*, 489 U.S. 189, 195, (1989).

After the State enacted SDCL § 23A-27A-32.1, Mr. Rhines had life and liberty interests that entitle him to be executed in the manner provided by South Dakota law at the time of his conviction or sentence. *See* SDCL § 23A-27A-32.1; *Ohio Adult Parole Auth. v. Woodard,* 523 U.S. 272, 289 (1998) (O'Connor, J.) ("A prisoner under a death sentence remains a living person

and consequently has an interest in his life."). Here, in enacting SDCL § 23A-27A-32.1, the State of South Dakota created life and liberty interests that entitle Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence. *See* SDCL § 23A-27A-32.1. The South Dakota Legislature enacted this provision in February of 2007 and made no changes to it when the Legislature amended portions of § 23A-27A-32 in 2008.

At the time that Rhines was convicted and sentenced, in 1993, South Dakota law provided, in pertinent part, and unequivocally, that "[t]he punishment of death ***shall*** be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch.181 (emphasis added). The statute allows no discretion in the manner of execution, but rather gives specific directives as to the manner of execution. *See Bagley,* 5 F.3d at 328. Accordingly, SDCL § 23A-27A-32.1 and SL 1984, ch.181 create protected life and liberty interests in execution "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch.181.

As set forth in Secion I, *supra*, South Dakota Codified Law mandates that Rhines shall be executed in this manner if he chooses it more than seven days before his execution week, which he did. (Compl. ¶¶ 30, 31, Exhibits B, C to the Compl.) Based upon the foregoing, Rhines has demonstrated that he has protected life and liberty interests in being executed in the manner he has chosen arising from South Dakota Codified Law. *See Osloond*, 659 N.W.2d at 24.

The State cannot deprive Rhines of his life and liberty interests without due process of law to which he is entitled under the due process clauses of the Fourteenth Amendment of the United States Constitution and Article Six, Section 2 of the South Dakota Constitution. *See* U.S. Const. amend. XIV, § 1; S.D. Const. art. XI, § 2. Pentobarbital is neither an ultra-short-acting barbiturate nor a chemical paralytic. (Compl ¶ 36; Stevens Aff. ¶¶ 7, 8, 11.) Ultra-short-acting barbiturates include sodium methohexital and sodium thiopental. (Compl ¶ 35; Stevens Aff. ¶ 7.) By stating that Rhines will be executed using pentobarbital, which is not an ultra-short-acting barbiturate, the State is deliberately and intentionally depriving Rhines of his constitutionally protected life and liberty interests without due process of law. Based upon the foregoing, Rhines is likely to succeed on the merits of his Second Cause of Action.

The lower court's failure to adjudicate the merits of his due process claim and its improper application of res judicata to deny an injunction or a stay likewise denied due process guaranteed by the Fourteenth Amendment of the U.S. Constitution. At its core, the Due Process Clause guarantees a party not only "the opportunity to present his case," but also the right "to have its merits fairly judged." *Logan v. Zimmerman Brush Co.*, 455 U.S. 422, 433 (1982). Thus, to satisfy due process, a hearing must fairly and reliably establish all the facts that the relevant law requires before a person may be deprived of his life and liberty. *See Bell v. Burson*, 402 U.S. 535, 542 (1971). The lower court's improper denial of a temporary injunction or stay without addressing the merits did not comport with these principles.

II. THIS COURT HAS THE AUTHORITY TO STAY RHINES'S EXECUTION AND SHOULD EXERCISE IT HERE TO AVOID IRREMEDIABLE INJURY TO RHINES.

The Court should exercise its authority to stay Rhines's execution. If Mr. Rhines is executed pursuant to a procedure that does not accord with the law, it is axiomatic that the harm

he will suffer is irreparable, because he will be dead. As the U.S. Supreme Court has recognized, "'[d]eath is a punishment different from all other sanctions in kind rather than degree." *Woodson v. North Carolina*, 428 U.S. 280, 303–04 (1976).

The trial court erred when it concluded that the irreparable harm prong neither favored Mr. Rhines nor the State. The harm Mr. Rhines seeks to avoid is an execution that violates the law that applies to his sentence. Rather than assessing the irreparability of the harm, the court simply summarized the State's arguments on the merits, which are irrelevant to this prong. *See supra* Section I.

Rhines's death by execution is an irremediable injury that should be avoided until this Court rules on whether the State's use of pentobarbital complies with Rhines's statutory rights under South Dakota law. If the State is permitted to execute Rhines using pentobarbital before this issue is decided, Mr. Rhines will be deprived of his statutory right without any possible remedy. Therefore, this Motion for Stay of Execution should be granted.

III. THE BALANCE OF THE EQUITIES FAVORS A STAY.

In balancing the equities, the court reasoned that the DOC has "a strong interest in enforcing its criminal judgments," *see* Order at 10 (citing *Hill v. McDonough*, 547 U.S. 573, 584 (2006), and that there is a "strong equitable presumption" against stays where claims could have been brought earlier," *see* Order at 10–11 (quoting *Nelson v. Campbell*, 541 U.S. 637, 650 (2004)). *See also* Order at 11 (citing *Ledford v. Comm'r, Georgia Dep't of Corr.*, 856 F.3d 1312, 1319–20 (11th Cir. 2017); *Jones v. Allen*, 485 F.3d 635, 640 (11th Cir. 2007)).

As discussed *supra* Section I.a., Mr. Rhines could not have raised his issues earlier, has not delayed, and had no reason to think he needed to raise these issues earlier. Further, he had no reason to believe that he had a need to raise it. Appellees indicated in the 2011 protocol that they

could use sodium thiopental if he elected the 2-drug protocol in effect at the that he was sentenced. Even as late as August of 2019 Appellees provided his counsel with information that suggested they possessed sodium thiopental. Mr. Rhines made his election in a timely manner and filed this suit promptly after the State, for the first time, notified him that it would violate the law.

Each of the federal cases cited by the trial court are inapposite. The petitioners in each case waited years after their claims were ripe before they filed suit. *See Hill*, 547 U.S. at 576–77; *Nelson*, 541 U.S. at 649; *Ledford*, 856 F.3d at 1315–16; *Jones*, 485 F.3d at 638–39. By contrast, Mr. Rhines filed a timely suit, shortly after his cause of action became ripe, and only after the state put him on notice, for the very first time, that it would violate the law. Neither the delay nor the piecemeal litigation at issue in *McGehee v. Hutchinson*, 854 F.3d 488, 492 (8th Cir. 2017), is applicable to this current litigation. In *McGehee*, the petitioners filed suit in state court challenging the 2015 adoption of a method of execution under both the state and federal constitutions. *Id.* at 491. When the state removed to federal court, the petitioners voluntarily dismissed the case and filed a new action in state court, omitting the federal constitutional claim. *Id.* Only after losing the state constitutional challenge, and just three weeks before the first of eight executions scheduled in March 2017, the petitioners again brought a federal constitutional challenge to the 2015. *Id.*

Moreover, the Eighth Amendment challenges raised in each of these cases related to the amount of suffering the petitioners would experience when executed, not whether the execution was, itself, in violation of state law. Mr. Rhines's challenge, by contrast, seeks only to secure his right to be executed in accordance with the very statute that empowers the State to take his life. *Cf. Ericksen v. City of Sioux Falls*, 14 N.W.2d 89, 95 (S.D. 1944) (reasoning that a city "has no

inherent powers and none of the attributes of sovereignty" and "possesses only such powers, great or small, as [the Constitution and statutes of the state] give it").

The State seeks to carry out the most solemn and irrevocable act of government without compliance with the statute that alone authorizes the DOC to take such an act. Any potential inconvenience of using the mandated drug does not counterbalance the harm that Mr. Rhines will suffer when he is executed in violation of the law, or the public interest in knowing that the DOC is conducting executions that are contrary to the authority granted to them by state statutes carefully outlined by its legislators.

IV. THE PUBLIC INTEREST FAVORS A STAY AND COMPLIANCE WITH THE STATUTES AT ISSUE.

As the trial court itself recognized, "[t]he public has a strong interest in making sure the State complies with laws passed by our legislature." Order at 11. "This interest is magnified when the State is carrying out the ultimate criminal penalty—death." Order at 11–12.

CONCLUSION

Mr. Rhines has met the requirements of a stay of execution and for this Court to reverse the trial court's order. For all the reasons set forth above, Mr. Rhines respectfully requests that the Court grant a stay of execution and issue a temporary restraining order, ordering that: (1) pentobarbital is neither an ultra-short-acting barbiturate nor a chemical paralytic agent; (2) the DOC is enjoined from executing Mr. Rhines with pentobarbital, and (3) the DOC shall execute Mr. Rhines only with an ultra-short-acting barbiturate (such as sodium methohexital or sodium thiopental) in combination with a chemical paralytic agent. In the alternative, Rhines requests an expedited hearing and a determination of the merits of his causes of action.

Ballard Spahr LLP

By: /s/ Daniel R. Fritz

Daniel R. Fritz
Timothy R. Rahn
101 South Reid Street, Suite 302
Sioux Falls, SD 57103
Telephone: (605) 978-5200
Attorneys for Appellants

CERTIFICATE PURSUANT TO SDCL 15-26A-66 and 15-26A-14

I, Daniel R. Fritz, hereby certify that the *Appellant's Brief* in the above-entitled matter complies with the typeface specifications of SDCL § 15-26A-66 and the length specifications in SDCL § 15-26A-14. The *Appellant's Brief* contains 62,523 characters not including spaces or 11, 854 words and that said *Appellant's Brief* does not exceed thirty-two (32) pages and was typed in Times New Roman font, 12 point.

Ballard Spahr LLP

/s/ Timothy R. Rahn

Timothy R. Rahn
Attorneys for Appellants

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on November 1, 2019, two (2) true and correct copies of the foregoing *Motion for Stay of Execution* were served by prepaid U.S. Mail and electronic mail upon the following:

Jason R. Ravnsborg
Paul S. Swedlund
Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501-8501
(605) 773-3215
jason.ravnsborg@state.sd.us
paul.swedlund@state.sd.us

Ballard Spahr

/s/ Timothy R. Rahn
Timothy R. Rahn
Attorneys for Appellants

APPENDIX

STATE OF SOUTH DAKOTA) :SS COUNTY OF MINNEHAHA)	IN CIRCUIT COURT SECOND JUDICIAL CIRCUIT

CHARLES RUSSELL RHINES, Plaintiff, vs. **SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, SECRETARY, SOUTH DAKOTA DEPARTMENT OF CORRECTIONS,** and **DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY,** Defendants.	49CIV19-002940 **MEMORANDUM OPINION AND ORDER DENYING APPLICATION FOR PRELIMINARY INJUNCTION AND STAY OF EXECUTION**

Plaintiff Charles Rhines (Rhines) is scheduled to be executed by lethal injection sometime between November 3-9, 2019, for the murder of Donnivan Schaeffer. Rhines seeks a preliminary injunction and stay of the execution for such duration as necessary to have a full trial on the merits of his complaint alleging that the proposed drug the State intends to use in the lethal injection process, pentobarbital, is not an "ultra-short-acting" barbiturate as required by South Dakota statutes. The State opposes the request, asserting Rhines' claims are barred by res judicata and further that pentobarbital is an ultra-short acting barbiturate as that phrase is used in the statute. The matter came before the Court for hearing on October 29, 2019.

After considering the parties' written submissions, testimony presented at the hearing, the applicable authorities, the record, and oral arguments, the Court denies Rhines' request for a preliminary injunction and stay of execution.

FACTUAL BACKGROUND

On March 8, 1992, the body of Donnivan Schaeffer, an employee of Dig 'Em Donuts in Rapid City, South Dakota, was found in the storeroom of the donut shop. His hands were bound, and he had stab wounds to his abdomen, upper back, and the back of his neck. There was also money missing from the store.

After an investigation, Charles Rhines was charged with third-degree burglary of the store and first-degree murder of Mr. Schaeffer.

A jury trial was held, and on January 22, 1993, the jury found Rhines guilty of these crimes. The jury recommended a sentence of death for the first-degree murder conviction. The trial court entered a judgment and issued a warrant of execution.

Rhines appealed the conviction and sentence to the South Dakota Supreme Court. The South Dakota Supreme Court affirmed the conviction and sentence in an opinion that was issued May 15, 1996. *State v. Rhines, 1996* S.D. 55, 548 N.W.2d 415.

Since that time Rhines has pursued a multitude of suits and appeals, both in the South Dakota state court system, and in the federal court system, including a case in which a decision was issued October 25, 2019, by the South Dakota Supreme Court affirming the dismissal of Rhines' suit challenging a Department of Corrections administrative policy relating to the methods and procedures for carrying out capital

sentences. *Rhines v. South Dakota Department of Corrections,* 2019 S.D. 59, ___ N.W.2d ____.

Rhines is currently scheduled for execution sometime during the week of November 3-9, 2019.

Rhines' request for relief in this case arises out of the South Dakota Legislature's 2007 revisions to South Dakota's death penalty statutes contained in South Dakota Codified Laws Chapters 23A-27A. Prior to the 2007 changes, SDCL 23A-27A-32 read in applicable part:

> The punishment of death shall be inflicted by the intravenous administration of a lethal quantity of an **ultra-short-acting barbiturate** in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice. (*emphasis added*).

The 2007 revisions changed the statute to read in applicable part:

> The punishment of death shall be inflicted by the intravenous injection of a substance or substances in a lethal quantity. The warden, subject to the approval of the secretary of corrections, shall determine the substances and the quantity of substances used for the punishment of death.

At the same time SDCL 23A-27A-32 was revised in 2007, the legislature added a new section, 23A-27A-32.1, which states:

> Any person convicted of a capital offense or sentenced to death prior to July 1, 2007 may choose to be executed in a manner provided in § 23A-27A-32 or in the manner provided by South Dakota law at the time of the person's conviction or sentence. The person shall choose by indicating in writing to the warden not less than seven days prior to the scheduled week of execution the manner of execution chosen. If the person fails or refuses to choose in the time provided under this section, then the person shall be executed as provided in 23A-27A-32.

On October 1, 2019, pursuant to SDCL 23A-27A-32.1, Rhines submitted a "KITE-REQUEST SLIP" addressed to Warden Darin Young in which Rhines elected the method of execution that was in effect at the time that he was sentenced to death. On October 4, 2019, an amended "KITE-REQUEST SLIP" was submitted by Rhines, again addressed to Warden Young, in which Rhines elected the method of execution that was in effect at the time he was sentenced to death, clarifying that the chosen method was pursuant to the two-drug protocol of a lethal dose of an ultra-short-acting barbiturate and chemical paralytic.

On October 15, 2019, attorneys for Rhines sent a letter by e-mail to Warden Young and the Attorney General requesting confirmation that Rhines' requests to be executed by the intravenous administration of a lethal quantity of an ultra-short acting barbiturate would be honored. Rhines' attorneys also requested that the State identify which ultra-short- acting barbiturate would be used to execute Rhines.

Two days later, October 17, 2019, Assistant Attorney General Paul Swedlund, on behalf of the State, sent an e-mail to Rhines' attorneys, stating:

> I am in receipt of your letter regarding Mr. Rhines' request for execution pursuant to the combination of drugs provided by statute at the time of his execution. The DOC will follow the law. The ultra-short-acting barbiturate the State intends to use is pentobarbital.

Five days later, October 22, 2019, Rhines filed this suit against Defendants (hereinafter collectively referred to as the "State") challenging the State's use of pentobarbital. Rhines also filed his application for a preliminary injunction and stay of execution, his brief in support of his application, an affidavit by his attorney, Dan

Fritz, with documents attached being relied upon by Rhines, and an affidavit by Rhines' expert, Craig Stevens, Ph.D. An amended complaint was filed the next day, October 23, 2019.

Because the execution is scheduled for next week, an expedited hearing was held October 29, 2019. Prior to the hearing, the State submitted a brief opposing Rhines' requests. The State also submitted documents in support of their argument, including a Declaration of Joseph Antognini, M.D.

At the hearing, the parties presented their respective arguments. Rhines also called his expert, Craig Stevens, Ph.D as a witness. Because of the expedited schedule, the State's expert, Joseph Antognini, M.D., was not available to testify, but his affidavit had previously been submitted.

OVERVIEW

In this suit Rhines is not challenging whether he received a fair trial. He is not challenging his conviction for first-degree murder. He is not challenging his sentence of death by lethal injection. He is not challenging whether death by lethal injection violates the Eighth Amendment prohibition against cruel and unusual punishment. He is challenging whether pentobarbital is an ultra-short-acting barbiturate as that phrase was used in SDCL 23A-27A-32.

Barbiturates are a drug group derived from barbituric acid. Barbiturates depress the central nervous system and have long been used as sedatives and hypnotics. Depending on the type of barbiturate and the size of the dosage, the drug can be used to

reduce anxiety, help a person fall asleep, or to render a person unconscious. Depending on the type and the dose, it can also be lethal.

In the two-drug protocol followed by South Dakota in executing a death sentence by lethal injection, a large dose of the barbiturate is administered intravenously. This is intended to cause unconsciousness in less than a minute. After the prisoner is unconscious the prisoner is no longer aware of pain or distress. As the drug continues to affect the body, the respiratory system is suppressed, the brain is deprived of oxygen, and cardiac activity ceases. The barbiturate by itself is sufficient to cause death. To ensure death, however, after the prisoner is unconscious, a paralytic agent is administered intravenously. This further inhibits muscle action, including ceasing cardiac activity.

Rhines agrees this case does not involve a challenge to the paralytic agent the State intends to use, but only a challenge to the use of pentobarbital as the barbiturate the State intends to administer. In support of his challenge, Rhines retained Dr. Craig Stevens. Dr. Stevens has a Ph.D. in Pharmacology and is currently a Professor of Pharmacology at Oklahoma State University. Dr. Stevens submitted an affidavit and testified at the October 29, 2019, hearing. In his opinion, barbiturates are divided into four distinct categories: ultra-short acting, short-acting, intermediate-acting, and long-acting. In his affidavit he states the classifications refer to the time of onset and duration of the drugs' effects. He testified that, the faster the onset (time required for the drug to take effect), the shorter the duration (time it takes for the drug to wear off). During his testimony at the hearing, he added that the classifications also relate to the drugs' lipid solubility.

In Dr. Stevens' opinion, there are two "ultra-short-acting" barbiturates, sodium thiopental and methohexital. Thiopental, the most frequently used ultra-short-acting barbiturate, is used in short-duration surgeries. The onset of anesthesia is usually within 10 to 30 seconds, because thiopental is so lipid soluble that it rapidly enters the brain.

Dr. Stevens also opines that pentobarbital is classified as a short-acting barbiturate, not an ultra-short-acting barbiturate. In support of his opinion, Dr. Stevens references various publications that place pentobarbital in the class of fast-acting barbiturates. He noted that even the package insert for Nembutal Sodium Solution (a brand-name pentobarbital sodium injection) states it is a short-acting barbiturate.

Rhines also relies heavily on a Montana state court decision, *Smith v. State of Montana, Dept. of Corr.*, 2015 WL 5827252 (Mont. Dist. 2015). The trial judge in *Smith*, in interpreting a statute similar to SDCL 23A-27A-32, ruled that pentobarbital is not an ultra-fast-acting barbiturate and enjoined the state from using it in the state's lethal injection protocol. *Id.* It does not appear the *Smith* decision was appealed to the Montana Supreme Court.

The State's expert on this issue is Joseph Antognini, M.D. Dr. Antognini is board certified in anesthesiology and his experience includes being Director of Peri-operative Services at the University of California Davis Health; and a Professor of Anesthesiology and Pain Medicine and Professor of Neurobiology, Physiology, and Behavior at University of California, Davis.

In his Declaration, Dr. Antognini explains that barbiturates can be classified as "ultra-short acting", "ultra-fast acting", "short acting," and "fast acting." These

classifications, however, are not absolute and change depending on the size of the dosage of the drug and whether it is administered orally (a pill) or intravenously.

Importantly, Dr. Antognini explains that the terms "ultra-short acting" and "short-acting" refer to the duration of action of the drug, that is, the length of time the drug has its intended effect (i.e., how long it takes to wear off). Dr. Antognini further explains that "ultra-fast acting" and "fast-acting" refers to the onset of action, in other words the length of time it takes for the effect of the drug to occur.

Exhibit C attached to Dr. Antognini's Declaration shows that a clinical intravenous dosage of thiopental takes effect in 10-40 seconds, while a clinical dosage of pentobarbital takes effect in one minute. In lethal execution dosages, however, while thiopental intravenously still takes effect in 10-40 seconds, pentobarbital takes effect in 20-30 seconds. Accordingly, in lethal execution dosages, pentobarbital's onset may take effect more quickly than thiopental.

In Dr. Antognini's opinion, pentobarbital administered intravenously in the lethal dose the State intends to use in Rhines' execution, will cause Rhines to be unconscious within 20-30 seconds after the initiation of the infusion. This is consistent with the time it would take for Rhines to be unconscious after initiation of an infusion of thiopental (10-40 seconds). Accordingly, pentobarbital is consistent with the classification of an ultra-fast acting/ultra-short acting barbiturate.

Further, in lethal doses, the duration of the drug, whether pentobarbital or thiopental, is meaningless as the inmate will die prior to the time the drug's effects cease. The State argues that it makes no sense and would lead to an absurd result to think that

the legislature was requiring use of a drug, the effects of which would wear off quickly (a drug with a short duration). The drug must be of such duration that its effects extend beyond the time of death. Instead, the State asserts it does make sense that the legislature was referring to a drug that induces a very quick transition from consciousness to unconsciousness. In a lethal intravenous dosage, the transition from consciousness to unconsciousness is virtually the same whether it is thiopental or pentobarbital, and, in fact, may be faster with pentobarbital.

PRELIMINARY INJUNCTION STANDARDS

SDCL 15-6-65 and SDCL Chapter 21-8 confirm that courts have the authority to issue preliminary and permanent injunctions. Whether a preliminary injunction should be issued involves the consideration of four factors, namely: (1) the threat of irreparable harm to the movant; (2) the balance of equities between the parties; (3) the probability that the movant will succeed on the merits; and (4) the public interest. *Dataphase Systems, Inc. v. CL Systems, Inc.*, 640 F.2d 109, 113 (8th Cir. 1981) (en banc); *Hedlund v. River Bluff Estates, LLC*, 2018 S.D. 20, ¶ 15, 908 N.W.2d 766, 771; *Dacy v. Gors*, 471 N.W.2d 576, 579 (S.D. 1991). No single factor is determinative in deciding whether to issue a preliminary injunction. *Dataphase*, 640 F.2d at 113.

Irreparable Harm to the Movant

Death, of course, cannot be undone. Rhines, however, is not asserting in this suit that he should not be put to death by lethal injection. Instead, he asserts that the irreparable harm he will suffer is being deprived of his right to be executed in the manner provided for by South Dakota law, more specifically by the administration of lethal doses

of an ultra-short-acting barbiturate in combination with a paralytic agent. Rhines asserts the only barbiturates that qualify as ultra-short-acting barbiturates are thiopental and methohexital.

The State counters that there is no irreparable harm to Rhines because in lethal doses pentobarbital is an ultra-short-acting barbiturate as that phrase is used in SDCL 23A-27A-32. Further, the effect of pentobarbital in lethal doses is not materially different from the effect of thiopental, and in some circumstances, pentobarbital induces unconsciousness faster than thiopental.

In considering this factor, I find it is neutral, not favoring Rhines or the State.

Balance of Equities Between the Parties

Rhines asserts the harm to the State is a minimal incremental delay and the administrative inconvenience of seeking another execution warrant. Rhines further cites to *Bucklew v. Precythe*,139 S.Ct. 1112, 1146 (2019), for the proposition that "the equities in a death penalty case will almost always favor the prisoner so long as he or she can show a reasonable probability of success on the merits."

The State counters with its own quote from *Bucklew*, that stays of execution "should be the extreme exception, not the norm." *Bucklew*, 139 S.Ct. at 1134. The State has a strong interest in enforcing its criminal judgments. *Hill v. McDonough*, 547 U.S. 573, 584 (2006). In addition, victims of crime (in this case the family of Donnivan Schaeffer) "have an important interest in the timely enforcement of a sentence." *Id.*

As stated in *Nelson v. Campbell*, 541 U.S. 637, 650 (2004), "[g]iven the state's significant interest in enforcing its criminal judgments, there is a strong equitable

presumption against the grant of a stay where a claim could have been brought at such a time as to allow consideration of the merits without requiring entry of a stay."

In *Ledford v. Comm'r, Georgia Dep't of Corr.*, 856 F.3d 1312, 1319-20 (11th Cir. 2017), the court denied a stay even though the inmate's claims were not necessarily barred by the statute of limitations. The court reasoned that the inmate had not been timely in waiting until five days before his execution to raise his claim. *Id.*

In *Jones v. Allen*, 485 F.3d 635 (11th Cir. 2007) an inmate facing imminent execution filed a last-minute challenge to Alabama's execution protocol, which had been adopted four years earlier. The Allen court concluded that the inmate's delay "leaves little doubt that the real purpose behind his claim is to seek a delay of his execution, not merely to effect an alteration of the manner in which it is carried out." *Jones*, 485 F.3d at 640.

In considering the equities in this matter, it is highly doubtful that the real purpose of this suit is Rhines' desire to die by the use of thiopental instead of pentobarbital as the barbiturate used in the two-drug protocol. Instead, the real purpose behind his claim is likely to seek a delay of his execution.

I find that the balance of equities between the parties favors the State.

Public Interest

The public interests in this matter are similar to the balance of equities between the parties, with the additional factor of the public's interest in its citizens and public officials complying with the laws passed by our legislature. The public has a strong interest in making sure the State complies with laws passed by our legislature. This interest is

magnified when the State is carrying out the ultimate criminal penalty—death. Whether this factor favors the State or Rhines, however, depends in large part on this court's findings on the probability of Rhines being successful on the merits of his challenge.

Probability that Movant Will Succeed on the Merits

In this case, the most significant factor in determining whether to grant Rhines' request for an injunction and stay of execution is the probability of Rhines succeeding on the merits of his claim. As stated in Hill, this requires Rhines to show "a significant possibility of success on the merits." *Hill*, 547 U.S. at 584. To determine this, the court must first address the issue of whether Rhines' suit is barred by the doctrine of res judicata.

Res Judicata

The State argues that Rhines' current claims are barred by res judicata. It argues that Rhines could have and should have raised this challenge eight years ago rather than waiting until less than two weeks before his execution is scheduled. The federal courts have held

> "A court considering a stay must ... apply 'a strong equitable presumption against the grant of a stay where a claim could have been brought at such a time as to allow consideration of the merits without requiring entry of a stay.'" *Hill v. McDonough*, 547 U.S. 573, 584, 126 S.Ct. 2096, 165 L.Ed.2d 44 (2006) (quoting *Nelson v. Campbell*, 541 U.S. 637, 650, 124 S.Ct. 2117, 158 L.Ed.2d 924 (2004)).

McGehee v. Hutchinson, 854 F.3d 488, 491 (8th Cir.), *cert. denied*, 137 S. Ct. 1275, 197 (2017).

The 2007 additions to SDCL 23A-27A-32 allow the warden to determine the substances and quantity of substances used for the punishment of death. In 2008, Rhines

amended his pending habeas petition in Pennington County (51 CIV 02-924) to also include a complaint for declaratory and injunctive relief. The declaratory and injunctive relief sought was in response to the statutory language in 23A-27A-32. Rhines' requested relief included: (1) a declaration that an execution carried out by means of the two drug cocktail provided in SDCL 23A-27A-32 in effect at the time of his conviction constitutes cruel and unusual punishment in violation of the South Dakota and United States Constitutions, as well as deprives him of his right to due process of law, and is therefore unconstitutional; and (2) a declaration that SDCL 23A-27A-32, as presently codified, and as applied to Rhines, constitutes an unconstitutional bill of attainder and an unconstitutional ex post facto law and deprives him of his right to due process of the law.

In August 2010, following the changes in 2007 to the statute and the United States Supreme Court decision in *Baze v. Rees,* 553 U.S. 35, the State revised its existing execution policy and protocol ("the protocol"). The protocol used the same three-drug protocol approved in *Baze.* In response to emerging judicial acceptance of pentobarbital as an execution anesthetic, the State again modified the protocol in October of 2011 to also provide for execution via a 1-drug, pentobarbital protocol for all prospective executions. After the adoption of the revised protocol, Rhines was served with notice of the protocol on October 21, 2011. Exhibit 1 attached to the State's brief in this matter is the notice and protocol.

The protocol included a policy on the substances and quantity of substances to be used for executions. The protocol identified the contents of the syringes for 3-Drug, 2-Drug, and 1-Drug executions. With regard to the barbiturates used for executions, the

protocol identified that either sodium thiopental *or* pentobarbital would be used. Importantly, following the charts describing the drugs to be utilized in executions, paragraph 4 on page 3 stated:

> Any person sentenced to death prior to July 1, 2007, may choose to be executed by the 3- or 1-Drug protocol set forth in this document, provided the SDDOC possess the necessary substance or substances for the method chosen at the time scheduled for the inmate's execution, or in the manner provided by South Dakota law at the time of the person's conviction *(2-Drug protocol set forth in this document).*[1]

After notice of the protocol in October of 2011, Petitioner made no further amendments to his petition. A court trial was held over a year later in December of 2012. During this period, discovery ensued and experts were deposed. Experts were deposed largely on the subject of a 3-drug protocol and whether it violates the Eighth Amendment; however, pentobarbital was a subject of frequent questioning. On February 27, 2013, Judge Trimble issued an Order denying Petitioner's claims, which decision included discussions of the use of pentobarbital. Both the circuit court and the South Dakota Supreme Court denied a Certificate of Probable Cause.

"Res judicata precludes relitigation of issues previously heard and resolved; it also bars prosecution of claims that *could have been raised in the earlier proceeding*, even though not actually raised." *Hobart v. Ferebee*, 2009 S.D. 101, ¶ 30, 776 N.W.2d 67, 76 (emphasis added). The South Dakota Supreme Court has also advised that:

> Res judicata consists of two preclusion concepts: issue preclusion and claim preclusion." *Am. Family Ins. Grp. v. Robnik*, 2010 S.D. 69, ¶ 15, 787 N.W.2d

[1] Exhibit 1 attached to State's brief in this matter.

> 768, 774. "Issue preclusion refers to the effect of a judgment in foreclosing relitigation of a matter that has been litigated and decided," and "also is referred to as direct or collateral estoppel." *Id.* (quoting *Migra v. Warren City Sch. Dist. Bd. of Educ.*, 465 U.S. 75, 77 n.1, 104 S.Ct. 892, 894 n.1, 79 L.Ed.2d 56). "Claim preclusion refers to the effect of a judgment in foreclosing litigation of a matter that never has been litigated, because of a determination that it should have been advanced in an earlier suit...." Id (quoting *Migra*, 465 U.S. at 77 n.1, 104 S.Ct. at 894 n.1). "To invoke the doctrine of res judicata, four elements must be established: (1) a final judgment on the merits in an earlier action; (2) the question decided in the former action is the same as the one decided in the present action; (3) the parties are the same; and (4) there was a full and fair opportunity to litigate the issues in the prior proceeding. *People ex rel. L.S.*, 2006 S.D. 76, ¶ 22, 721 N.W.2d 83, 89–90.

Estate of Johnson ex rel Johnson v. Weber, 2017 S.D. 36, ¶ 41, 898 N.W.2d 718, 733, reh'g denied (July 28, 2017).

When examining a res judicata argument, a court is "not restricted to whether the specific question posed by the parties in both actions was the same or whether the legal question posed by the nature of the suit was the same." *Farmer v. S. Dakota Dep't of Revenue & Regulation,* 2010 S.D. 35, ¶ 10, 781 N.W.2d 655, 660. Instead, "[a] cause of action is comprised of the facts which give rise to, or establish, the right a party seeks to enforce." *Merchants State Bank v. Light*, 458 N.W.2d 792, 794 (citing *Bank of Hoven v. Rausch,* 449 N.W.2d 263, 266)). "Essentially, it is the underlying facts which give rise to the cause of action that must determine the propriety or necessity of presenting a specific issue within the prior proceedings." *Lewton v. McCauley*, 460 N.W.2d 728, 731 (S.D. 1990).

This Court considers the cases of *Lewton* and *Farmer* as instructive in understanding res judicata. In both cases, each claim arose out of factually similar

scenarios. In *Farmer,* both claims arose out of the same act: failure to pay taxes. Because both claims came from the same transaction and one already had a final judgment, the Court found that res judicata applied. Similarly, in *Lewton*, both claims arose out of the same scenario: Lewton's bankruptcy. However, the difference in *Lewton* focuses on whether the subsequent claim even existed at the time the first claim was brought. While the first claim concerned the cattle and the contract between the parties, the amount of rent owed is certainly related to both; however, the second claim could not have been brought at that time because the issue of the amount of rent owed derived from the first court's decision. *Lewton* demonstrates that while the two claims may arise out of the same factual scenario, the second claim must have existed at the time if a party is going to assert that the claim should have been brought pursuant to the doctrine of res judicata. *Farmer*, on the other hand, demonstrates two separate claims related to the same action. If the party had a fair opportunity to litigate the second claim during the proceedings of the first claim, res judicata precludes the subsequent action.

Rhines had a full and fair opportunity to challenge the protocol's compliance with the statutes in his 2011 Pennington County action. Rhines was put on notice of the State's intent to use pentobarbital when Rhines was served with a copy of the protocol on October 24, 2011. The protocol contained explicit notice of the State's intention to use pentobarbital in the 2-drug protocol that Rhines ultimately elected. Rhine's then-pending complaint for declaratory and injunctive relief contained general arguments that the protocol denied him due process that he felt he was entitled to under SDCL 23A-27A-32 and opposed the "two chemicals" that would be used. Experts in the case frequently

discussed the use of pentobarbital in the execution. In a deposition taken December 1, 2012, one of Rhine's own experts, Dr. Mark Heath, testified at length about the use of pentobarbital. A copy of Dr. Heath's deposition is attached as Exhibit 8 to the State's brief in this case. Examples of Dr. Heath's discussion of pentobarbital includes testimony on page 21 of the deposition transcript that "pentobarbital is typically put into the short or medium-acting categories." Further on page 22 he discusses the differences between thiopental and pentobarbital. On page 22 he is asked whether he has "reviewed the protocol and have an understanding at least a paper level of how the State of South Dakota intends to use pentobarbital as a lethal injection drug", to which Dr. Heath replies "Yes."

Additionally, during the litigation of Rhine's method of execution claims, the State had an expert opine on whether a 2-drug protocol of pentobarbital and a paralytic agent would provide a painless and humane death for an inmate. Therefore, not only was Rhines put on notice in October of 2011, but he was also put on notice, through the deposition of the experts, of the State's intent to use pentobarbital in carrying out the 2-drug protocol.

Because Rhines was aware of the State's intent to use pentobarbital in its 2-drug protocol, Rhines could have and should have brought a specific challenge to the use of pentobarbital as part of his then-pending complaint for declaratory and injunctive relief eight years ago. While Rhines challenged many other aspects with regard to 23A-27A-32, Rhines failed to present any argument as to pentobarbital when the protocol explicitly listed pentobarbital as one of two drugs that could be administered in the 2-drug protocol.

Because the declaratory action sought in the prior litigation specifically talked about both drugs, the protocol, and the statute, Rhines was bound to bring the claims at that time, not eight years later and just days before his scheduled execution.

The State further asserts that this was a strategic attempt to stay his execution because he also could have asserted the claims in his APA challenge in August of 2018 but did not do so. *See Rhines v. South Dakota Dept. of Corrections*, 2019 S.D. 59, __ N.W.2d __.

At the hearing, Rhines asserted that the claims are not barred by res judicata because the claim was not ripe until the State's non-compliance with the statute. Rhines also argues that the claims asserted are not the same under a res judicata analysis. As to the ripeness, Rhines argues that SDCL 23A-27A-32.1 provides him with a right to elect which method of execution to administer up until 7 days prior to the scheduled week of execution. Thus, the choice to elect which method of execution gives him authority to wait to choose his manner of execution and no issue existed until the State notified him that the barbiturate to be used at his execution would be pentobarbital.

This court finds that argument unpersuasive. As discussed above, Rhines initially filed a habeas petition on unrelated grounds in Pennington County in 2002. Following the amendments to the statutes in 2007, Rhines amended his petition in 2008 seeking declaratory and injunctive relief based on the constitutionality of SDCL 23A-27A-32 before and after the amendments. Many of Rhines' claims related to the changes in the statutes and the lack of specificity of what kind of drugs would be utilized in an execution. The protocol was issued in 2010 and revised in 2011 and provided specific

explanations of the types of drugs the State would utilize, among others. Further, the protocol in paragraph 4 on page 3 made it clear that the 2-drug protocol was exclusively applied to inmates sentenced prior to 2007, such as Rhines. Rhines was put on notice of the adoption and revision of the protocol. The protocol specifically referenced pentobarbital as one of two barbiturates to be used in a 3-, 2-, or 1- drug execution. Rhines had this information and made no amendments to his current declaratory and injunctive requests in his petition. Unlike *Lewton,* Rhines' cause of action existed at the time his Pennington County declaratory judgment action was pending. Rhines had a "full and fair opportunity to litigate" the validity of whether the protocol was in compliance with the language under SDCL 23A-27A-32 at that time.

As to Rhines' ripeness argument, SDCL 21-24-1 permits the declaration of legal rights or relations before an actual injury occurs.[2] When seeking declaratory relief, there are four jurisdictional requirements that must be established:

> (1) There must exist a justiciable controversy; that is to say, a controversy in which a claim of right is asserted against one who has an interest in contesting it; (2) the controversy must be between persons whose interests are adverse; (3) the party seeking declaratory relief must have a legal interest in the controversy, that is to say, a legally protectible interest; and (4) the issue involved in the controversy must be ripe for judicial determination.

Boever v. South Dakota Bd. Of Accountancy, 526 N.W.2d 747, 750 (quoting *Danforth v. City of Yankton*, 25 N.W.2d 50, 53 (S.D. 1946). "Ripeness involves the timing of judicial

[2] SDCL 21-24-1 provides: Courts of record within their respective jurisdictions shall have power to declare rights, status, and other legal relations whether or not further relief is or could be claimed. No action or proceeding shall be open to objection on the ground that a declaratory judgment or decree is prayed for. The declaration may be either affirmative or negative in form and effect; and such declaration shall have the force and effect of a final judgment or decree.

review and the principle that '[j]udicial machinery should be conserved for problems which are real and present or imminent, not squandered on problems which are abstract or hypothetical or remote.'" *Id.* (quoting *Gottschalk v. Hegg,* 228 N.W.2d 640, 643–44 (S.D.1975) (quoting Davis, *Administrative Law Treatise,* § 21.01)).

In *Boever v. South Dakota Bd. of Accountancy,* Boever was a certified public accountant licensed under SDCL ch 36-20A. 526 N.W.2d 747, 748 (S.D. 1995). In order to maintain his licensure, Boever, as well as all CPAs, were subjected to quality reviews every three years pursuant to statute. *Id.* After a statutorily mandated quality review was conducted, the South Dakota Department of Legislative Audit filed a complaint against Boever. *Id.* at 749. In an agreement to terminate disciplinary action against Boever, he agreed to undergo another quality review. *Id.* Shortly after his agreement, Boever filed a complaint in circuit court seeking a declaration at the review and disciplinary statutes were unconstitutional due to vagueness and lack of sufficient standards to constitute a lawful delegation of legislative powers. *Id.* The trial court found that the claims were not ripe because there was "no present controversy." *Id.*

On appeal, the South Dakota Supreme Court affirmed and reversed in part. *Id.* at 751. In the analysis, the Court affirmed the trial court's conclusion that there was no present controversy with regard to the disciplinary statutes. *Id.* at 750. With regard to the quality review statutes, though, the Court reversed and remanded the trial court's decision based on the statutory language that required quality reviews every three years. *Id.* The language there provides for future quality reviews that are "imminent and

inevitable" because a review was bound to happen in the future. *Id.* The court therefore found that the constitutional challenge to the statute was ripe for review. *Id.*

Rhines was lawfully sentenced to death. Like the quality reviews statutes in *Boever,* Rhines execution was "imminent and inevitable." The statutes and protocol undoubtedly applied to Rhines in 2011 as much as it does now in 2019. The issue was ripe in 2011 when the protocol was issued because the protocol explicitly referenced pentobarbital as one of two barbiturates to be used in executions. Further, in his previous litigation in 2011, Rhines specifically referenced both drugs listed in the protocol in his declaratory action. Furthermore, in 2011, when the protocol was issued, the issue now presented was not abstract, hypothetical, or remote at that time.

The State is correct in its assertion that Rhines challenged the exact protocol in 2011 as he is challenging now. The protocol clearly indicated that the State would administer a barbiturate of either sodium thiopental or pentobarbital. Rhines places emphasis on the word *or* and argues that because he did not know which drug the State would use at his execution, the issue was not ripe. However, Rhines argument fails because the issue of the constitutionality of the 3-drug protocol was ripe for judicial review as was demonstrated by the Rhines' declaratory and injunctive action in 2011. Applying Rhines' logic, because the State or Rhines could have elected alternate methods of execution, his original claims in 2011 would also not have been ripe for adjudication. Therefore, the question of whether pentobarbital, as listed in the protocol and discussed in the habeas petition, fits within the statutory definition of an ultra-short acting barbiturate would be ripe as well.

The Eighth Circuit's decision in *McGehee v. Hutchinson*, in another death penalty case challenging the drug cocktails, also supports this court's decision. "Whether or not the claim technically is barred by doctrine of res judicata or collateral estoppel, the prisoners' use of "piecemeal litigation" and dilatory tactics is sufficient reason by itself to deny a stay." *McGehee v. Hutchinson*, 854 F.3d 488, 492-92 (8th Cir.), *cert. denied*, 137 S. Ct. 1275, 197 L.Ed. 2d 746 (2017) (quoting *Hill v. McDonough*, 547 U.S. at 584-85, 126 S.Ct. 2096). "Both the State and the victims of crime have an important interest in the timely enforcement of a sentence." *Hill v. McDonough*, 547 U.S. 573, 584, 126 S. Ct. 2096, 2104, 165 L. Ed. 2d 44 (2006) (quoting *Calderon v. Thompson,* 523 U.S. 538, 556, 118 S.Ct. 1489, 140 L.Ed.2d 728 (1998)).

The Court finds there is a strong probability that Rhines' claims are barred by res judicata, and further finds there is not a significant possibility that Rhines will be successful on the merits of the res judicata issue. Because of the court's finding on the res judicata issue, it does not need to, and does not, make a finding regarding whether pentobarbital is an ultra-short acting barbiturate as that phrase is used in SDCL 23A-27A-32.

ORDER

Based upon the foregoing, Rhines' request for a temporary restraining order and preliminary injunction is denied. Rhines' request for a stay of execution is also denied.

Dated this 31st day of October, 2019.

BY THE COURT:

Jon C. Sogn
Circuit Court Judge

ATTEST:
Angelia M. Gries, Clerk of Court

By: _____
Deputy Clerk

STATE OF SOUTH DAKOTA	) :SS	IN CIRCUIT COURT
COUNTY OF MINNEHAHA	)	SECOND JUDICIAL CIRCUIT

CHARLES RUSSELL RHINES, Plaintiff, v. SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, SECRETARY, SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY, and JASON R. RAVNSBORG IN HIS CAPACITY AS THE ATTORNEY GENERAL FOR THE STATE OF SOUTH DAKOTA, Defendants.	CIV. 19-_____ **THIS IS A CAPITAL CASE EXECUTION SET FOR BETWEEN NOVEMBER 3, 2019 AND NOVEMBER 9, 2019**

COMPLAINT

COMES NOW PLAINTIFF, and for his Complaint against Defendants, states and alleges as follows:

INTRODUCTION

1. This is a Complaint seeking injunctive and declaratory relief directing Defendants South Dakota Department of Corrections ("DOC"), Mike Leidholt, Secretary of the DOC, Darin Young, in his capacity as warden of the South Dakota State Penitentiary, and Jason R. Ravnsborg, in his capacity as the Attorney General for the State of South Dakota (collectively, "Defendants") to execute Plaintiff Charles Russell Rhines ("Rhines") in accordance with South Dakota Codified Law, to wit, "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict

is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch. 181, codified at SDCL 23A-27A-32. (1984).

2. Rhines is a prisoner sentenced to death by the State of South Dakota on January 29, 1993.

3. Rhines's execution week is November 3, 2019 through November 9, 2019.

4. SDCL § 23A-27A-32.1 provides in pertinent part that "Any person convicted of a capital offense or sentenced to death prior to July 1, 2007 may choose to be executed in the manner provided in § 23A-27A-32 or in the manner provided by South Dakota law at the time of the person's conviction or sentence. The person shall choose by indicating in writing to the warden not less than seven days prior to the scheduled week of execution the manner of execution chosen." SDCL § 23A-27A-32.1.

5. At the time that Rhines was convicted and sentenced, South Dakota law provided, in pertinent part, that: "The punishment of death shall be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch. 181, codified at SDCL § 23A-27A-32 (1984).

6. In enacting SDCL § 23A-27A-32.1, the State of South Dakota created a statutory right that entitles Rhines to be executed in the manner provided by South Dakota law at the time of Rhines's conviction or sentence if he chooses that manner.

7. The State, in enacting SDCL § 23A-27A-32.1, also created life and liberty interests entitling Rhines to the same. Rhines's life and liberty interest is protected by the Due Process Clause

of the Fourteenth Amendment of the United States Constitution and the Due Process Clause of Article Six, Section 2 of the South Dakota Constitution.

8. In a Kite-Request Slip dated October 1, 2019, addressed to Defendant Young, Rhines chose to be executed in the manner that was in effect at the time that he was sentenced to death.

9. In an amended Kite-Request Slip dated October 4, 2019, addressed to Defendant Young, Rhines chose to be executed in the manner that was in effect at the time that he was sentenced to death, to wit, "[t]he Two Drug Protocol of a Lethal Dose of An Ultra-Short Acting Barbiturate and a Chemical Paralytic."

10. On October 15, 2019, attorneys for Rhines, emailed and mailed a letter to Defendants Young and Ravnsborg, and Paul Swedlund, Assistant Attorney General in the Office of the Defendant Attorney General, requesting, among other things, confirmation that Rhines's request to be executed by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent would be honored.

11. In a letter dated October 17, 2019, Assistant Attorney General Swedlund advised counsel that he had received "Mr. Rhines' request for execution pursuant to the combination of drugs provided by statute at the time of his execution." Mr. Swedlund noted that "DOC will follow the law." Mr. Swedlund further informed counsel that "[t]he ultra-short-acting barbiturate the state intends to use is pentobarbital."

12. Upon information and belief, pentobarbital is not an ultra-short-acting barbiturate.

13. Numerous courts have held that pentobarbital is not an ultra-short-acting barbiturate. *See, e.g.*, *Smith v. Montana*, No. BDV-2008-303, 2015 WL 5827252 (Mont. Dist. Ct. Lewis and Clark County Oct. 6, 2015) (unpublished) (attached hereto as Exhibit A) ("This Court rules that pentobarbital is not an ultra-fast-acting barbiturate. The State of Montana will either need to select a

barbiturate that is ultra-fast acting to accomplish the execution of Plaintiffs or it will need to modify its statute.")

14. Medical journals provide that pentobarbital is not an ultra-short-acting barbiturate.

15. Defendants' decision to used pentobarbital, contrary to South Dakota law, deprives Rhines of his statutory right to be executed in the manner of his choice. It also deprives Rhines of his life and liberty interests in being executed in the manner of his choice without due process of law guaranteed under the Due Process Clause of the Fourteenth Amendment of the United States Constitution and the Due Process Clause of Article Six, Section 2 of the South Dakota Constitution.

16. Rhines's execution week is a mere two weeks away. Thus, Rhines brings this action for injunctive and declaratory relief to enforce his right under South Dakota law to be executed by the manner he chose, intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent, and not by pentobarbital which is neither an ultra-short-acting barbiturate nor a chemical paralytic agent.

PARTIES

17. Plaintiff Rhines is a United States citizen and a resident of the State of South Dakota. He is currently a condemned inmate in the custody of Defendants and under the supervision of the DOC in Sioux Falls, South Dakota.

18. Defendant South Dakota Department of Corrections ("DOC") is an agency of the State of South Dakota. The DOC is responsible for all prisons in the State of South Dakota, for the custody and treatment of death-sentenced inmates, and for the execution of such inmates.

19. Defendant Mike Leidholt is the Secretary of the DOC and is sued in his official capacity.

20. Defendant Darin Young is the Warden of the South Dakota State Penitentiary and is sued in his official capacity.

21. Defendant Jason R. Ravnsborg is the Attorney General for the State of South Dakota and is sued in his official capacity.

JURISDICTION AND VENUE

22. This Court has jurisdiction to adjudicate this action under the South Dakota Uniform Declaratory Judgments Act, SDCL § 21-24-1 et seq.

23. Venue in this Court is proper under SDCL § 15-5-2(2), which provides that an action against a public officer shall be brought in the county where the cause, or some part thereof, arose. The injury to Plaintiff because of Defendants' illegal actions has occurred and will occur in the County of Minnehaha and, as such, venue is proper in this Court.

FACTS

24. Rhines was sentenced to death on January 29, 1993.

25. On June 25, 2019, Judge Robert Mandel granted a warrant of execution, which sets forth that Rhines shall be executed between November 3 and November 9, 2019.

26. SDCL § 23A-27A-32.1 provides that:

> Any person convicted of a capital offense or sentenced to death prior to July 1, 2007 may choose to be executed in the manner provided in § 23A-27A-32 ***or in the manner provided by South Dakota law at the time of the person's conviction or sentence***. The person shall choose by indicating in writing to the warden not less than seven days prior to the scheduled week of execution the manner of execution chosen. If the person fails or refuses to choose in the time provided under this section, then the person shall be executed as provided in § 23A-27A-32.

SDCL § 23A-27A-32.1 (emphasis added).

27. At the time that Rhines was convicted and sentenced, in 1993, South Dakota law provided, in pertinent part, that, "The punishment of death shall be inflicted by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch 181.

28. In 2007, the South Dakota Legislature amended the law as follows:

SOUTH DAKOTA 2007 SESSION LAWS
2007 REGULAR SESSION OF THE 82ND LEGISLATURE

Additions are indicated by Text; deletions by
~~Text~~ . Changes in tables are made but not highlighted.

Ch. 151 (HB 1175)
West's No. 101
CAPITAL PUNISHMENT—LETHAL INJECTION—SUBSTANCES

FOR AN ACT ENTITLED, An Act to provide for the substances used in the execution of a sentence of death and to allow the choice of the substances used in an execution under certain circumstances.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF SOUTH DAKOTA:

Section 1. That § 23A–27A–32 be amended to read as follows:

<< SD ST § 23A–27A–32 >>

23A–27A–32. The punishment of death shall be inflicted within the walls of some building at the state penitentiary ~~or within the yard or enclosure adjoining thereto~~ . The punishment of death shall be inflicted by the ~~intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice~~ intravenous injection of a substance or substances in a lethal quantity. The warden, subject to the approval of the secretary of corrections, shall determine the substances and the quantity of substances used for the punishment of death. An execution carried out by ~~lethal~~ intravenous injection shall be performed by a person ~~selected by the warden and~~ trained to administer the injection who is selected by the warden and approved by the secretary of corrections. The person administering the intravenous injection need not be a physician, registered nurse, ~~or~~ licensed practical nurse, or other medical professional licensed or registered under the laws of this or any other state. Any infliction of the punishment of death by ~~administration of the required lethal~~ intravenous injection of a substance or substances in the manner required by this section may not be construed to be the practice of medicine ~~and any~~ . Any pharmacist or pharmaceutical supplier is authorized to dispense the ~~drugs~~ substance or substances used to inflict the punishment of death to the warden without prescription, for carrying out the provisions of this section, notwithstanding any other provision of law.

Section 2. That chapter 23–A–27A be amended by adding thereto a NEW SECTION to read as follows: Any person convicted of a capital offense or sentenced to death prior to the effective date of this Act may choose to be executed in the manner provided in this Act or in the manner provided by South Dakota law at the time of the person's conviction or sentence. The person shall choose by indicating in writing to the warden not less than seven days prior to the scheduled week of execution the manner of execution chosen. If the person fails or refuses to choose in the time provided under this section, then the person shall be executed as provided in section 1 of this Act.

Approved February 23, 2007.

29. In 2008, the South Dakota Legislature further amended the law as follows:

SOUTH DAKOTA 2008 SESSION LAWS

2008 REGULAR SESSION OF THE 83RD LEGISLATURE

Additions are indicated by Text; deletions by

~~Text~~ . Changes in tables are made but not highlighted.

Ch. 117 (SB 53)

West's No. 244
CAPITAL PUNISHMENT—JUDGES—WARRANTS

FOR AN ACT ENTITLED, An Act to revise certain provisions related to capital punishment.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF SOUTH DAKOTA:

* * * * * * * * * * * * *

<< SD ST § 23A–27A–32 >>

23A–27A–32. The punishment of death shall be inflicted within the walls of some building at the state penitentiary. The punishment of death shall be inflicted by the intravenous injection of a substance or substances in a lethal quantity. The warden, subject to the approval of the secretary of corrections, shall determine the substances and the quantity of substances used for the punishment of death. An execution carried out by intravenous injection shall be performed by ~~a person~~ persons trained to administer the injection who ~~is~~ are selected by the warden and approved by the secretary of corrections. The ~~person~~ persons administering the intravenous injection need not be ~~a physician~~ physicians, registered ~~nurse~~ nurses, licensed practical ~~nurse~~ nurses, or other medical ~~professional~~ professionals licensed or registered under the laws of this or any other state. Any infliction of the punishment of death by intravenous injection of a substance or substances in the manner required by this section may not be construed to be the practice of medicine. Any pharmacist or pharmaceutical supplier is authorized to dispense to the warden the substance or substances used to inflict the punishment of death ~~to the warden~~ without prescription, for carrying out the provisions of this section, notwithstanding any other provision of law.

30. In a Kite-Request Slip dated October 1, 2019, addressed to Defendant Young, Rhines pursuant to SDCL § 23A-27A-32.1, elected the method of execution that was in effect at the time that he was sentenced to death. (A true and correct copy of the October 1, 2019 Kite-Request Slip is attached hereto as Exhibit B.)

31. In an amended Kite-Request Slip dated October 4, 2019, addressed to Defendant Young, Rhines elected the method of execution that was in effect at the time that he was sentenced to death, to wit, "[t]he Two Drug Protocol of a Lethal Dose of An Ultra-Short Acting Barbiturate and

a Chemical Paralytic." (A true and correct copy of the October 4, 2019 Kite-Request Slip is attached hereto as Exhibit C.)

32. As of October 15, 2019, Defendant Young had not responded to Rhines's Kite-Request Slips. On October 15, 2019, attorneys for Rhines, emailed and mailed a letter to Defendant Young, Defendant Ravnsborg, and Paul Swedlund, Assistant Attorney General in the office of the Attorney General, requesting, among other things, confirmation that Rhines's request to be executed by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent would be honored. (A true and correct copy of the October 15, 2019 letter is attached hereto as Exhibit D.)

33. Rhines's attorneys also requested that the Defendants identify which ultra-short-acting barbiturates will be used to execute Mr. Rhines. (*Id*.)

34. On October 17, 2019, Mr. Swedlund, from the office of Defendant Young, emailed attorneys for Rhines a letter stating, "I am in receipt of your letter regarding Mr. Rhines' request for execution pursuant to the combination of drugs provided by statute at the time of his execution. The DOC will follow the law. The ultra-short-acting barbiturate the state intends to use is pentobarbital." (A true and correct copy of the October 17, 2019 letter is attached hereto as Exhibit E.)

35. Upon information and belief, ultra-short-acting barbiturates include sodium methohexital and sodium thiopental.

36. Upon information and belief, pentobarbital is not an ultra-short-acting barbiturate. Nor is it a chemical paralytic agent.

37. Defendants intend to execute Mr. Rhines, in contravention of his statutory right to elect the method of his execution, with pentobarbital, a drug that is not an ultra-short-acting barbiturate. Pentobarbital is not a chemical paralytic agent either.

First Cause of Action—Violation of the Right to Choose the Manner of Execution Provided by Law at the Time of Sentence (Against All Defendants)

38. Rhines incorporates by reference each and every allegation contained in the foregoing paragraphs as if specifically alleged herein.

39. In enacting SDCL § 23A-27A-32.1, the State of South Dakota created and codified a state statutory right that entitles Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence. Defendants have a corresponding duty to ensure Rhines can exercise this right.

40. The manner of execution provided by South Dakota law at the time of Rhines's conviction and sentence was, in relevant part, "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch. 181, codified at SDCL § 23A-27A-32 (1984).

41. SL 1984, ch 181 created a right to an execution "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch. 181, codified at SDCL § 23A-27A-32 (1984).

42. Rhines has a right to execution "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." *Id.*

43. Rhines's right to be executed in the manner set forth in SL 1984, ch 181 is codified and protected by SDCL § 23A-27A-32.

44. Rhines has exercised his right to choose the manner set forth in SL 1984, ch 181. Rhines has done so in accordance with the provisions of SDCL § 23A-27A-32.1.

45. Defendants cannot deprive Rhines of his right to be executed in the manner of his choice. Defendants have a duty to ensure Rhines can exercise his right.

46. Defendants assert pentobarbital is an ultra-short-acting barbiturate. (Exh. E.)

47. Upon information and belief, pentobarbital is neither an ultra-short-acting barbiturate nor a chemical paralytic agent.

48. Upon information and belief, ultra-short-acting barbiturates include sodium methohexital and sodium thiopental.

49. By refusing to guarantee that Rhines will be executed in the manner set forth in SL 1984, ch 181, Defendants are depriving Rhines of his state statutory right created and protected by SDCL § 23A-27A-32.1 and SL 1984, ch. 181, codified at SDCL § 23A-27A-32 (1984).

Second Cause of Action– Deprivation of Due Process (Against All Defendants)

50. Rhines incorporates by reference each and every allegation contained in the foregoing paragraphs as if specifically alleged herein.

51. In enacting SDCL § 23A-27A-32.1, the State of South Dakota created life and liberty interests that entitle Rhines to be executed in the manner provided by South Dakota law at the time of the Rhines's conviction or sentence.

52. The manner of execution provided by South Dakota law at the time of Rhines's conviction and sentence was, in relevant part, "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch 181.

53. SL 1984, ch 181 creates protected life and liberty interests in execution "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch 181.

54. Rhines has life and liberty interests in execution "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch 181.

55. Rhines's life and liberty interests in being executed in the manner set forth in SL 1984, ch 181 are protected by the Due Process Clause of the Fourteenth Amendment of the United States Constitution.

56. Rhines's life and liberty interests in being executed in the matter set forth in SL 1984, ch 181 are protected by the Due Process Clause of Article Six, Section 2 of the South Dakota Constitution.

57. By stating their intention to execute Rhines using pentobarbital, which is neither an ultra-short-acting barbiturate nor a chemical paralytic agent, Defendants are deliberately and intentionally depriving Rhines of his life and liberty interests to be executed in the manner of his choice without due process of law.

Third Cause of Action – Injunctive Relief (Against All Defendants)

58. Rhines incorporates by reference each and every allegation contained in the foregoing paragraphs as if specifically alleged herein.

59. Defendants' decision to use pentobarbital to execute Rhines deprives Rhines of his statutory right to be executed using an ultra-short-acting barbiturate. It also deliberately and

intentionally deprives Rhines of his life and liberty interests in being executed using an ultra-short-acting barbiturate without due process of law guaranteed under the United States and South Dakota Constitutions.

60. Rhines has a substantial likelihood of success on the merits of his claims.

61. Rhines will suffer severe and irreparable injury if Defendants are not enjoined from executing Rhines with pentobarbital, in violation of his rights.

62. The interests of justice will be served by the Court ordering that: (a) Defendants are prohibited from executing Rhines with Pentobarbital, and; (b) Defendants are required to execute Rhines "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate", to wit, sodium methohexital or sodium thiopental.

Fourth Cause of Action – Declaratory Judgment (Against All Defendants)

63. Rhines incorporates by reference each and every allegation contained in the foregoing paragraphs as if specifically alleged herein.

64. The Uniform Declaratory Judgment Act, SDCL§ 21-24-1, provides that the "Courts of record within their respective jurisdictions shall have power to declare rights, status, and other legal relations whether or not further relief is or could be claimed. No action or proceeding shall be open to objection on the ground that a declaratory judgment or decree is prayed for. The declaration may be either affirmative or negative in form and effect; and such declaration shall have the force and effect of a final judgment or decree."

65. A valid case or controversy exists between the parties because Defendants intend to execute Rhines in violation of Rhines's statutory and constitutional rights.

66. Rhines seeks a declaration that pentobarbital is not an ultra-short-acting barbiturate.

67. Rhines seeks a declaration that Defendants are enjoined from executing Rhines with pentobarbital.

68. Rhines seeks a declaration that: (a) Defendants are prohibited from executing Rhines with Pentobarbital, and; (b) Defendants are required to execute Rhines "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate", to wit, sodium methohexital or sodium thiopental.

69. Rhines has suffered and will suffer an injury in fact based upon Defendants' deprivation of his statutory and due process rights.

70. There is a causal connection between Rhines's injury and Defendants' conduct.

71. Rhines's injury will be redressed by a judgment declaring that: (a) pentobarbital is neither an ultra-short-acting barbiturate nor a chemical paralytic agent; (b) Defendants are enjoined from executing Rhines with pentobarbital, and (c) Defendants are required to execute Rhines only "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate", to wit, sodium methohexital or sodium thiopental.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for judgment against Defendants as follows:

A. A judgment declaring that: (1) pentobarbital is not an ultra-short-acting barbiturate; (2) Defendants are enjoined from executing Rhines with pentobarbital, and (3) Defendants are required to execute Rhines only "by the intravenous administration of a lethal quantity of an ultra-short-acting barbiturate", to wit, sodium methohexital or sodium thiopental.

B. A preliminary and permanent injunction ordering that: (1) Rhines's execution is stayed pending adjudication of this action; (2) pentobarbital is not an ultra-short-acting barbiturate; (3) Defendants are enjoined from executing Rhines with pentobarbital, and (4) Defendants are required to execute Rhines only "by the intravenous administration of a

lethal quantity of an ultra-short-acting barbiturate", to wit, sodium methohexital or sodium thiopental.

C. For other and further relief as the court deems proper.

Dated this 22nd day of October, 2019.

BALLARD SPAHR LLP

By: /s/ Daniel R. Fritz

Daniel R. Fritz (2390)
Timothy R. Rahn (4871)
101 South Reid Street, Suite 302
Sioux Falls, SD 57103
Telephone: (605) 978-5200

Email: fritzd@ballardspahr.com
rahnt@ballardspahr.com

Filed: 10/22/2019 3:36 PM CST Minnehaha County, South Dakota 49CIV19-002940

2015 WL 5827252 (Mont.Dist.) (Trial Order)
District Court of Montana.
First Judicial District Court
Lewis And Clark County

Ronald Allen SMITH and William Gollehon, Plaintiffs,
v.
STATE OF MONTANA, DEPARTMENT OF CORRECTIONS; Director Mike Batista; Warden Leroy Kirkegard; and John Does 1-20, Defendants.

No. BDV-2008-303.
October 6, 2015.

Findings of Fact, Conclusions of Law and Order

Ronald F. Waterman.

Jim Taylor.

Gregory A. Jackson.

Michael Donahoe.

Timothy C. Fox/ C. Mark Fowler/Pamela P. Collins/Jonathan M. Krauss, Robert Stutz.

Jeffrey M. Sherlock, Judge.

INTRODUCTION

*1 Before proceeding, it important to clarify the nature of this case. This Court has not been asked and will not make a determination as to whether lethal injection of the Plaintiffs constitutes cruel and unusual punishment. This case is not about the constitutionality or appropriateness of the death penalty in Montana. This case is not about whether the use of pentobarbital in a lethal injection setting is cruel and unusual or if pentobarbital in the doses contemplated by the State of Montana would produce a painless death. Further, this case is not about the availability of pentobarbital or any other drug. This case is only about whether the drug selected by the Department of Corrections to effectuate the Plaintiffs' lethal injections, pentobarbital, meets the legislatively required classification of being an "ultra-fast acting barbiturate."

This Court rules that pentobarbital is not an ultra-fast-acting barbiturate. The State of Montana will either need to select a barbiturate that is ultra-fast acting to accomplish the execution of Plaintiffs or it will need to modify its statute as will be detailed below.

From the testimony and evidence presented, the Court enters the , following:

FINDINGS OF FACT

Trial in this matter was held on September 2 and 3, 2015. Representing Plaintiffs were Ronald F. Waterman, James Park Taylor, and Gregory A. Jackson. Representing the State of Montana were C. Mark Fowler, Pamela P. Collins, Jonathan M. Krause, and Robert Stutz. The Court received numerous exhibits and heard from two witnesses, Dr. Mark Heath and Dr. R. Lee Evans.

Jurisdiction and venue are proper in this Court.

Plaintiff Ronald Allen Smith, an inmate at Montana State Prison, has been sentenced to death for the killing of two young men in 1982.

Plaintiff William J. Gollehon, an inmate at Montana State Prison, has been sentenced to death for the killing of another inmate at Montana State Prison in 1990.

The Montana Supreme Court has upheld the death sentences of both Plaintiffs. *State v. Smith*, 280 Mont. 158, 931 P.2d 1272 (1996); *State v. Gollehon*, 262 Mont. 1, 864 P.2d 249 (1993).

Session law 1983 Montana Laws chapter 411 enacted lethal injection as an option for the execution of prisoners sentenced to death. That provision introduced the phrase "ultra-fast-acting barbiturate" into Montana Code Annotated § 46-19-103.

As of March 19, 1997, lethal injection became the sole method of execution of a sentence of death.

Montana Code Annotated § 46-19-103(3) provides: "[t]he punishment of death must be inflicted by administration of a continuous, intravenous injection of a lethal quantity of an ultra-fast-acting barbiturate in combination with a chemical paralytic agent until a coroner or deputy coroner pronounces that the defendant is dead."

The current Execution Technical Manual (ETM) was adopted on January 16, 2013. (*See* PL's Ex. 1.) The two-drug protocol is referenced on pages 41, and 50 through 53 of the current ETM. There it is indicated that sodium pentothal and pancuronium bromide will be used in the execution. At page 51, it is indicated that these drugs may be substituted by another drug based on availability. It is specifically provided that pentobarbital with a dosage of 5 gms may be substituted for sodium pentothal. Further, rocuronium bromide with a dosage of 1,000 mgs may be substituted for pancuronium bromide.

***2** The State of Montana is the only state that specifies that the death penalty be accomplished by an "ultra-fast-acting barbiturate." The other states employing the death penalty either specify a particular drug to be used or merely state that execution is to take place by means of lethal injection.

The only issues remaining in this case are what the Montana legislature meant by using the words "ultra-fast-acting barbiturate" in Montana Code Annotated § 46-19-103, and whether pentobarbital is an ultra-fast-acting barbiturate within the meaning of Montana Code Annotated § 46-19-103.

Pentobarbital and thiopental are included in the class of drugs known as barbiturates.

At trial, the first witness was Dr. Mark Heath. His curriculum vitae was received as Plaintiffs Exhibit 8. Dr. Heath is a practicing anesthesiologist in New York at the Columbia Medical Center and also teaches medicine at the Columbia School of Medicine. Dr. Heath is a Board Certified Anesthesiologist and has written extensively on lethal injection. He has testified before various courts and legislatures, and has written articles and book chapters about lethal injection. Dr. Heath has also extensively studied various types of lethal injection, by reviewing witnesses descriptions, execution logs, publications, and electroencephalogram results of people who have been executed by means of lethal injection. All of Dr. Heath's opinions, which will be cited below, were given with a reasonable degree of medical certainty. The bottom line for Dr. Heath is that pentobarbital — the drug selected by the Montana Department of Corrections — is not an ultra-fast-acting barbiturate.

Barbiturates were first created in the 1930s and, as a class, share a certain common core ring of molecules. In general, barbiturates are weak acids that are absorbed and rapidly distributed to all tissues of the human body. Barbiturates are known by their

lipid solubility. Barbiturates possessing more lipid solubility distribute more rapidly to the human brain. The basic core ring of barbiturate molecules has been modified over the years, and those modifications affect how certain barbiturates operate.

Experts speak of "vein-to-brain time," which is the amount of time it takes a barbiturate injected into the blood stream to transit to the human brain. In addition, there is a "blood-brain barrier." This is a grouping of cells and capillaries around the human brain that prevent toxins from entering the brain. Certain modifications to the basic barbiturate structure have allowed a rapid transfer through the blood-brain barrier. According to Dr. Heath, it is often important to have a very quick transition from consciousness to unconsciousness, quickly penetrating the blood-brain barrier, which allows physicians to lake control of a patient's breathing to prevent negative consequences from occurring as a patient enters unconsciousness. According to Dr. Heath, this is the purpose of the development of ultra-fast-acting barbiturates.

Barbiturates are traditionally classified as long-acting (phenobarbital), medium-acting (such as pentobarbital), short-acting (secobarbital), and ultra-short-acting (thiopental). (*See* Test. Dr. Mark Heath; PL's Ex. 4, Margaret Wood, Alistair J.J. Wood, DRUGS AND ANESTHESIA PHARMACOLOGY FOR ANESTHESIOLOGISTS (2d. ed.,Williams & Wilkins); *see also* PL's Ex. 5, Ronald D. Miller, MILLER'S ANESTHESIA, 6th ed. (2005). According to Dr. Heath and MILLER'S ANESTHESIA, the ultra-short-acting drugs are thiopental, methohexital, and thiamylal. By using terms such as short-acting or ultra-short-acting, the classification system refers to the duration of action or how long the barbiturate exercises its control over the human body.

***3** As noted by Dr. Heath, there is another classification of barbiturates which refers to the onset of action of the barbiturate or how soon the maximum effect is felt by the body. According to Dr. Heath, there is a correspondence between the two systems, and the terms ultra-fast and ultra-short refer to the same type of barbiturates, as do the terms fast and short, and as do the terms slow and long. Putting this in a tabular form, we find the following:

1. Ultrafast acting	Ultrashort acting	thiopental, thiamylal, methohexital
2.* Fast acting	Short acting	secobarbital, pentobarbital
3.* Intermediate acting	Intermediate acting	pentobarbital*
4. Slow acting	Long acting	phenobarbital

(*Some systems combine #2 and #3 into one group of intermediate acting drugs) (PL's Rebuttal Expert Disclosure, at 4 (June 25, 2013).) According to Dr. Heath, pentobarbital is either classified "fast," "short," or "intermediate."

Pentobarbital is not used as an anesthetic, according to Dr. Heath, because its effects last too long. Rather, pentobarbital is commonly used in pill form as a treatment for epilepsy and is also used to induce comas in already unconscious patients. Pentobarbital in the doses suggested in Montana's ETM would undoubtedly cause the death of the inmate.

Dr. Heath has used, in a clinical setting, both pentobarbital and thiopental. Dr. Heath has never heard, prior to this case, any reference to pentobarbital being classified as being ultra-fast acting. According to Dr. Heath, the operation of thiopental and pentobarbital is noticeably different. Dr. Heath testified that an administration of thiopental causes a "lights out" effect, where a patient is unable to complete the thought that was in their mind upon the administration of the drug. A patient receiving thiopental would take one or two breaths before the drug exerted its control over the patient. Heath also opined that an individual given pentobarbital would breathe longer, would have various body movements, and would slur words before the pentobarbital took effect. Heath testified that a patient given pentobarbital would physically be able to appreciate the accrual of sleepiness or unconsciousness, while a patient given thiopental would not.

Of significant import to the Court is the manufacturer's insert provided for pentobarbital. (*See* PL's Ex. 7, manufacturer's insert for Nembutal Sodium Solution (the manufacturer's name for pentobarbital).) At page one, the insert states "NEMBUTAL Sodium is a short-acting barbiturate." This comports with the classification stated by Dr. Heath.

Plaintiffs Exhibit 11 contains a compilation of a search engine results completed by Dr. Heath. His research shows that there were 28,600 results produced for a description of thiopental as an ultra-short-acting barbiturate. An additional 42 results were returned for the search phrase of thiopental being an ultra-fast-acting barbiturate. On the other hand, the search engine reported one finding for pentobarbital being an ultra-short-acting barbiturate, and a single finding of pentobarbital being an ultra-fast-acting barbiturate. (PL's Ex. 11, at 3.)

The State produced the testimony of Dr. R. Lee Evans, a doctor of pharmacy and Dean of Pharmacy at Auburn University. In Dr. Evans' original declaration filed in March 2015 and received into evidence as Plaintiffs Exhibit 9, he is "not aware of the origin of the term "ultra-fast acting." (PL's Ex. 9, at 6, ¶ 14.) According to Dr. Evans, pentobarbital could be considered short acting, and thiopental, ultra-short acting. (Id.) Dr. Evans opined that there is no meaningful difference between pentobarbital and thiopental in the time it takes to render a person comatose. (Id., at 7, ¶ 15.) However, Dr. Evans noted that onset of action for pentobarbital is under a minute, while for thiopental, the onset of action could be ten to forty seconds. (Id.)

***4** Until the trial of this action. Dr. Evans had not testified that pentobarbital was an ultra-fast-acting barbiturate. lie did so testify at trial. However, the Court struck that conclusion because it did not comport with his prior discovery responses or declarations filed with the Court. (*See* PL's Exs. 9, 10.) At the trial of this matter, Dr. Evans indicated that the onset of pentobarbital was under one minute. However, on December 10, 2012, Dr. Evans indicated "[thiopental is an onset of about a half to one minute, duration of a little less than 30 minutes. Pentobarbital is onset three to four minutes with a duration that is somewhat longer. That's the primary difference." (PL's Ex. 14, *Pardo v. Palmer*, Case No. 3:12-cv-1328-J-32JBT (M.D. Fl. Dec. 10, 2012), Test. Roswell Lee Evans, Jr., at 68).) This testimony stands in stark contrast to what Dr. Evans stated at the trial this matter.

Dr. Evans pointed out that there is no question that pentobarbital is fast acting. For example, Plaintiffs Exhibit 7 — the package insert for pentobarbital — indicates that "the onset of action ranges from almost immediate...." (PL's Ex. 7, at 2.) See also Defendant's Exhibit L, a TOXNET reference which indicates that the onset of thiopental and pentobarbital is "almost immediate. (Def.'s Ex. L, at 16.) TOXNET is a collection of databases operated by the National Library of Medicine. See also Defendant's Exhibit N, a *Drugs.com* reference which indicates that the onset of pentobarbital is immediate. (Def.'s Ex. N, at 1.) Thus, there is no question that pentobarbital is fast acting. The question remains as to whether it is ultra-fast acting.

Dr. Evans did cite to references that indicate that if the onset of action of a drug is less than a minute, it can be considered ultra-fast acting. (*See.* e.g., PL's Ex. Q, TOXNET reference, at 12; PL's Ex. R, Micromedic reference, at 4 ("ultra-fast acting has an onset of one minute or less.).) The Court notes that at page 1 of Exhibit R, pentobarbital is listed as being "short acting," not ultra-short acting.

These references to pentobarbital being ultra-fast acting are consistent with Dr. Heath's finding *some* sources refer to pentobarbital as being ultra-fast acting. However, that must be compared with the greater weight of authority that indicates that pentobarbital is not in the class of drugs considered to be ultra-fast acting.

Dr. Evans did indicate that, in his opinion, pentobarbital and thiopental are almost identical. Both, in his current opinion, reach maximum effect in less than one minute's time. However, Dr. Evans did acknowledge that thiopental is a little quicker to get to the brain because pentobarbital is not as lipid soluble.

In making its decision, this Court has had to weigh the evidence presented by Dr. Evans versus Dr. Heath. Supporting Dr. Heath's testimony are standard pharmacology for anaesthesiologists text books (PL's Exs. 4, 5) and Dr. Heath's own consistent testimony. Also supporting Dr. Heath's position is the significant research that classifies thiopental as being ultra-short acting

(ultra-fast acting) and not so classifying pentobarbital, except for a few scattered references. (*See* PL's Ex. 11.) Also of utmost import is the manufacturer's insert for pentobarbital (PL's Ex. 7), which classifies pentobarbital as a short-acting barbiturate. Also crucial in this weighing the Court has undertaken is the fact that in the *Pardo v. Palmer* case, in testimony given not three years ago, Dr. Evans testified that pentobarbital's onset of action is three to four minutes as opposed to the less than one minute referred to in his testimony in this case. This is not to in any way insinuate that Dr. Evans is not a credible witness. However, it is a factor when weighing the evidence which shows by a relatively overwhelming nature that, while pentobarbital may operate in a fast nature, it is not ultra-fast as is required to comply with Montana's execution protocol. Thus, through this weighing process, this Court concludes that pentobarbital is not an ultra-fast-acting barbiturate.

***5** From the foregoing Findings of Fact, the Court enters the following:

CONCLUSIONS OF LAW

1. Jurisdiction and venue are proper in this Court.

2. By using the limiting term "ultra" in the phrase "ultra-fast-acting barbiturate" in Montana Code Annotated § 46-19-103(3), the legislature limited the State of Montana to using only drugs in the fastest category of barbiturates, namely thiopental, methohexital, and thiamylal. Under the express terms of the statute, the State of Montana is not allowed to use the "fastest acting barbiturate available," or a "relatively fast-acting barbiturate," only an "ultra-fast-acting barbiturate," meaning drugs from the fastest class of barbiturates.

3. Had the legislature intended to give the State of Montana latitude in what drugs to use, it could have used much more general language in the statute authorizing execution, as many other states have now done. Pentobarbital cannot properly be classified as "ultra-fast-acting," since there is another class of drugs that is faster. Whether those drugs are currently available is not an issue the Court can resolve for the State. The State's remedy is to ask the Legislature to modify the statute to allow the use of pentobarbital or other slower acting drugs.

4. The State of Montana has modified the execution protocol several times during this litigation and has had many opportunities to return to the legislature to modify the language which limits the State of Montana to "ultra-fast-acting barbiturates," but has chosen not to.

5. Courts may not legislate through judicial interpretation of statutes. *Albinger v. Harris*, 2002 MT 118, ¶ 38, 310 Mont 274, 8 P.3d 711 (It is not the province of this court or any other court to assume to legislate by judicial interpretation, and to create in favor of any individual or any class of people an exception to the limitation set by the legislature.). A court cannot second-guess and substitute its judgment for that of the legislature or insert what has been omitted. *State Bar of Mont. v. Krivec*, 193 Mont. 477, 481, 632 P.2d 707, 710 (1981). Indeed, Montana law regarding statutory' interpretation begins with Montana Code Annotated § 1-2-101, which states: [i]n the construction of a statute, the office of the judge is simply to ascertain and declare what is in terms or in substance contained therein, not to insert what has been omitted or to omit what has been inserted." In Montana Code Annotated § 46-19-103, the legislature mandates use of an "ultra-fast-acting barbiturate," and the Department of Corrections plan to use a drug which is, without dispute, not classified as an ultra-fast-acting barbiturate. Given these facts, the Court must find an impermissible inconsistency between the legislative mandate and the Department of Corrections' exercise of that mandate. Scrupulous adherence to statutory mandates is especially important here given the gravity of the death penalty. *Accord* *In re Ohio Execution Protocol Litigation*, 840 F. Supp. 2d 1044 (S.D. Ohio 2012).

From the foregoing Findings of Fact and Conclusions of Law, the Court enters the following:

ORDER

***6** The State of Montana is hereby ENJOINED from using the drug pentobarbital in its lethal injection protocol unless and until the statute authorizing lethal injection is modified in conformance with this decision.

DATED this *6* day of October 2015.

<<signature>>

JEFFREY M. SHERLOCK

District Court Judge

pcs: Ronald F. Waterman

Jim Taylor

Gregory A. Jackson

Michael Donahoe

Timothy C. Fox/C. Mark Fowler/Pamela P. Collins/Jonathan M. Krauss, Robert Stutz

End of Document

SOUTH DAKOTA PENITENTIARY

KITE - REQUEST SLIP

October 1, 2019 20 _____

Inmate RHINES, Charles No. 15036

Cell No. A-3-55 Works Pending

Desires an Audience with DARIN YOUNG: Warden: South Dakota State Penitentiary

Give Reason — Private Business Not Sufficient

As per South Dakota Codified Law 23A-27A-32.1, I am hereby notifying you that I have selected the method of execution which was in effect at the time I was sentenced to death:

To: Wit: January 29, 1993

Charles R. Rhines

STATE OF SOUTH DAKOTA
COUNTY OF MINNEHAHA

On October 1, 2019, Charles R. Rhines personally appeared before me, whose Identity I proved on the basis of Incarceration, to be the signer of the above document, and he acknowledged that he signed it.

NOTARY PUBLIC

My Commission Expires: 5/6/19

S E A L

KEITH R. THOMSON
NOTARY PUBLIC
SOUTH DAKOTA

OFFICER

SECOND ITTERATION, SUPERCEDES ALL OTHERS NOT SO MARKED

SOUTH DAKOTA PENITENTIARY

KITE - REQUEST SLIP

October 4, 2019 20 ____

Inmate RHINES, Charles, R. No. 15036

Cell No. A-3-55 Works Pending

Desires an Audience with DARIN YOUNG: Warden: South Dakota State penitentiary

Give Reason — Private Business Not Sufficient

As per South Dakota Codified Law 23A-27A-32.1, I am hereby notify-you that I have selected the method of execution which was in effect at the time I was sentenced to death on January 29, 1993. To Wit: The Two Drug Protocol of a Lethal Dose of An Ultra-short Acting Barbiturate and a Chemical paralytic agent.

Charles R. Rhines

STATE OF SOUTH DAKOTA
COUNTY OF MINNEHAHA

On October 4, 2019, Charles R. Rhines personally appeared before me, whose Identity I proved on the babsis of Incarceration, to be the signer of the above document, and he acknowledged that he signed it.

S E A L NOTARY PUBLIC

My Commission Expires: 7-17-2024

TAYLOR YOST
NOTARY PUBLIC SOUTH DAKOTA
SEAL SEAL
OFFICER
My Commission Expires 7-17-2024

1620-DOC | M - 8

GT GreenbergTraurig

Caroline J. Heller
Tel 212.801.2165
Fax 212.805.9488
hellerc@gtlaw.com

October 15, 2019

VIA EMAIL AND USPS

darin.young@state.sd.us
Darin Young
1600 North Drive
PO Box 5911
Sioux Falls, South Dakota 57117

paul.swedlund@state.sd.us
Paul Swedlund, Esq.
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501

Re: Charles Rhines, SDDOC #15036

Dear Warden Young and Mr. Swedlund:

We represent Charles Russell Rhines. As you know, on June 25, 2019, Judge Robert Mandel issued a warrant of execution for Mr. Rhines for between November 3 and November 9, 2019. Pursuant to S.D.C.L. § 23A-27A-32.1, on a Kite-Request Slip dated October 1, 2019 and an amended Kite-Request Slip dated October 4, 2019, Mr. Rhines elected to be executed pursuant to the manner provided by South Dakota law at the time of his sentence; to wit, "by the intravenous administration of a lethal quantity of an ultra-short acting barbiturate in combination with a chemical paralytic agent and continuing the application thereof until the convict is pronounced dead by a licensed physician according to accepted standards of medical practice." SL 1984, ch 181.

We write to request that you confirm Mr. Rhines's request will be honored, and that he will be executed by the intravenous administration of an ultra-short-acting barbiturate. We also request that you identify which one of the three ultra-short-acting barbiturates will be used to execute Mr. Rhines: sodium methohexital; sodium thiamylal, or; sodium thiopental.

Further, with respect to the ultra-short-acting barbiturate that is identified for use in Mr. Rhines's execution, we request that you provide the following information: (1) whether it was manufactured or compounded; (2) if manufactured, the identity of the country, or the State in the United States, from whence it was imported/obtained; (3) if compounded, the date on which any compounding was performed and whether it was performed by a licensed pharmaceutical company or pharmacist; (4) any testing conducted to ensure such drug's or drugs' (including the API) potency, purity, and integrity, including the tests conducted, the date(s) of same, and the results; (5) whether

such testing was performed by a licensed pharmaceutical company, pharmacy, or pharmacist, and whether such pharmaceutical company, pharmacy, or pharmacist has been subject to disciplinary action or cited for violations of state or federal laws or regulations by either state or federal entities; (6) the "beyond use" or "expiration" date of such drug (including the API), and when and how such date(s) was/were established; (7) the date on which any API was ordered and received and how it was stored during transport and since it has been in DOC's possession, and; (8) how the drug has been stored since the time of compounding or importation.

We also request that you confirm a licensed physician will be present at Mr. Rhines's execution to pronounce death.

Please provide this information no later than October 18, 2019 to my email address, hellerc@gtlaw.com. I look forward to your timely response.

Sincerely,

/s/ Caroline J. Heller

Caroline J. Heller
Greenberg Traurig, LLP
200 Park Ave.
New York, New York 10166
Telephone (212) 801-2165
Facsimile (212) 805-9488
hellerc@gtlaw.com

cc: Jason Ravnsborg, Esq. (*via email and U.S. Mail*)
Charles Rhines (*via U.S. Mail*)

STATE OF SOUTH DAKOTA

OFFICE OF ATTORNEY GENERAL
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Phone (605) 773-3215
Fax (605) 773-4106
TTY (605) 773-6585
http://atg.sd.gov

JASON R. RAVNSBORG
ATTORNEY GENERAL

CHARLES D. McGUIGAN
CHIEF DEPUTY ATTORNEY GENERAL

October 17, 2019

VIA EMAIL AND USPS

Caroline Heller
GreenbergTraurig, LLP
MetLife Building
200 Park Avenue,
New York NY 10166
hellerc@gtlaw.com

Dear Ms. Heller:

I am in receipt of your letter regarding Mr. Rhines' request for execution pursuant to the combination of drugs provided by statute at the time of his execution. The DOC will follow the law. The ultra-short acting barbiturate the state intends to use is pentobarbital.

Recent case authorities have quite emphatically and unequivocally stated that "[n]either the 5th, 14th or 1st Amendments afford [inmates] the broad right 'to know where, how and by whom the lethal injection drugs will be manufactured," as well as 'the qualifications of the person or persons who will manufacture the drugs, and who will place the catheters." *Wellons v. Georgia Department of Corrections,* 754 F.3d 1260, 1267 (11th Cir. 2014). Consistent with this authority, with regard to your questions related specifically to the pentobarbital:

(1) The DOC will not disclose whether the drug is "manufactured" or "compounded." The DOC will advise you that the barbiturate is produced for and used by medical practitioners in the United States. Obviously, drugs used in the United States must be produced in an FDA-approved facility according to accepted GMP.
(2) The DOC will not disclose the country or state of origin of the drug.
(3) No drug has yet been compounded and, consistent with past practice, will not be compounded until 24 hours prior to the execution. Per DOC practice, compounding is performed by qualified persons, as demonstrated by past testing and the efficacy of the drugs in the Robert, Moeller and Berget executions.
(4) The DOC will not disclose testing until after the execution.
(5) Per DOC practice, all testing is performed by a qualified independent lab.

(6) The DOC will not disclose any "beyond use" or "expiration" date of the drugs it intends to use as this could identify the source. The DOC will advise you that no drug it intends to use is beyond the "beyond use" or "expiration date" set by the manufacturer.
(7) The DOC will not disclose the date any of its drugs were ordered or received.
(8) All drugs have at all times been stored in accordance with manufacturer instructions while in the DOC's control.

Finally, I can confirm for you that a licensed physician will be present at Mr. Rhines' execution.

Yours truly,

Paul S. Swedlund
Assistant Attorney General

PSS/rar

STATE OF SOUTH DAKOTA	) :SS	IN CIRCUIT COURT
COUNTY OF MINNEHAHA	)	SECOND JUDICIAL CIRCUIT

CHARLES RUSSELL RHINES, Plaintiff, v. SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, SECRETARY, SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, AND DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY, Defendants.	49CIV. 19-002940 **THIS IS A CAPITAL CASE EXECUTION SET FOR BETWEEN NOVEMBER 3, 2019 AND NOVEMBER 9, 2019**

REPLY/SUPPLEMENTAL MEMORANDUM OF LAW IN FURTHER SUPPORT OF APPLICATION FOR A PRELIMINARY INJUNCTION, TEMPORARY RESTRAINING ORDER AND STAY OF EXECUTION

As this Court identified at the onset of yesterday's hearing, the ultimate issue in this case is whether pentobarbital is an ultra-short-acting barbiturate. Plaintiff Charles Russell Rhines ("Rhines") has demonstrated overwhelmingly that it is not, and no court or medical authority has classified pentobarbital as such. The immediate issue here, however, is whether Plaintiff Rhines has demonstrated a likelihood that pentobarbital is not an ultra-short-acting barbiturate such that a stay of the irreparable is warranted considering the other equitable factors. Given such overwhelming demonstration, the Court should answer the immediate issue in the affirmative and grant Rhines' Application for a Preliminary Injunction, Temporary Restraining Order and Stay of Execution.

This brief and supplemental affidavit are submitted pursuant to the Court's invitation to file any additional arguments or information. These supplemental fillings will briefly respond to

some of the arguments raised in Defendants' response to Mr. Rhines's application, as well as provide additional information that it critical to this application.

I. Pentobarbital Is Not an Ultra-Short Acting Barbiturate

As an initial matter, in reviewing the medical documents and testimony regarding barbiturates, the Court should ignore such documents and testimony that relate to the *effects* of the drugs because that is not the issue here. When drafting SDCL § 23A-27A-32 (1984), the legislature set forth a specific *classification* of a barbiturate to be used - those classified as ultra-short-acting. The statute did not concern itself the effects of drugs nor did it defer to the South Dakota Department of Corrections to choose the drugs and the doses to accomplish the desired effects. With no authority classifying pentobarbital as an ultra-short-acting barbiturate and without an expert witness to testify to the same, Defendants attempt to create an alternative classification system based on the effects of the drugs given certain doses and in certain settings rather than the universal classification based on the drugs' chemical properties. To that end, Defendants carefully extract testimony and literature in the context of the effects of barbiturates and not the classification. When looking at the evidence on the classification, which is the exercise here, it is overwhelmingly true that pentobarbital is not an ultra-short-acting barbiturate.

As Dr. Craig Stevens testified and explained, barbiturates are classified as either ultra-short-acting, short-acting, intermediate-acting, or long-acting, depending upon their chemical properties, to wit, how lipid-soluble a particular barbiturate is. He is not aware of any peer reviewed articles or medical literature that has ever classified pentobarbital as an ultra-short-acting barbiturate. He testified that in his expert opinion, pentobarbital is not an ultra-short-acting barbiturate. His opinion is consistent with authoritative medical texts and articles. *See, e.g.*, Linda Lilley, et al., Pharmacology and the Nursing Process 189 (9th ed. 2020) (including classification

chart listing thiopental as ultrashort-acting barbiturate and pentobarbital as short-acting barbiturate); PHARMACOLOGY 111 fig. 9.7 (Richard A. Harvey & Pamela C. Champe eds.) (4th ed. 2009) (classifying pentobarbital as short-acting and thiopental as ultra-short-acting); Carl Burtis et al., Tietz Textbook of Clinical Chemistry and Molecular Diagnostics 1325-26 & Table 34.10 (4th ed. 2006) (identifying thiopental as ultrashort-acting barbiturate and pentobarbital as short-acting barbiturate); Francisco López-Muñoz, et al., The History of Barbiturates a Century After Their Clinical Introduction, NEUROPSYCHIATRIC DISEASE AND TREATMENT, Vol. 1(4), 329-43, Table 3 (Dec. 2005) (reproducing table from 1983 classifying pentobarbital as short-acting and thiopental as ultrashort-acting); *see also* 1 Lawyers' Guide to Medical Proof § 106.02 (2019) (classifying ultrashort-acting barbiturates "in current medical use" as methohexital, thiamylal, and thiopental, and classifying pentobarbital among the short-acting and intermediate-acting barbiturates); 9 Attorneys Textbook of Medicine (Third Edition) P. 51.10 (2019) (classifying ultrashort-acting barbiturates as thiopental, thiamylal and methohexital); 12-256-9A Courtroom Medicine Series: Psychic Injuries § 9A.50 ("Ultra-short-acting barbiturates include thiopental (half-life of 6 to 46 hours; Schedule III) and methohexital (1 to 2 hours; Schedule IV); the short-acting group includes pentobarbital (Nembutol; 15 to 48 hours; Schedule II; III) . . . .").

The affidavit of Dr. Antiognini, submitted by the Defendants, does not contradict this.[1] Rather than arguing against the universally-accepted classification of pentobarbital, Dr. Antiognini focuses on the "desired clinical effect (e.g. unconsciousness)" of pentobarbital compared to other drugs at different doses. See Ex. D to Antiognini affidavit. In other words, Dr. Antiognini cannot

[1] If Defendants submit a supplemental affidavit from Dr. Antognini that states that pentobarbital has been classified as an ultra-short-acting barbiturate, this Court should grant the motion for an injunction to allow counsel for Mr. Rhines to depose Dr. Antiognini. The crux of the complaint and motion are whether pentobarbital is classified as an ultra-short-acting barbiturate, and if Dr. Antiognini did not testify to that in his first affidavit, counsel for Mr. Rhines is entitled to test any newly formed opinion.

argue against the chemical properties of pentobarbital, namely its lipid-solubility, that prevent it from being classified as ultra-short-acting and, instead, argues a position not contemplated by SDCL § 23A-27A-32 (1984) – that, if the warden gets the dose right, it will have the effect of unconsciousness at the same rate as an ultra-fast-acting barbiturate.

Based on their carefully extracted phrases from medical literature and expert testimony, defendants attempt to create a narrative that medical minds can differ on the chemical properties of barbiturates and the classifications based thereon, particularly, anesthesiologists. To the contrary, the Court in *Smith v. Montana*, No. BDV-2008-303, 2015 WL 5827252, at *1 (Mont. Dist. Ct. Lewis and Clark County Oct. 6, 2015), cites Margaret Wood and Alistair J.J. Wood's text, "DRUGS AND ANESTHESIA PHARMACOLOGY FOR ANESTHESIOLOGISTS" (2d. ed.,Williams & Wilkins 1989), in support of the statement that "[b]arbiturates are traditionally classified as long-acting (phenobarbital), medium-acting (such as pentobarbital), short-acting (secobarbital), and ultra-short-acting (thiopental)." *Smith*, 2015 WL 5827252, at *2. In their response, Defendants cited an article on neurosurgical anesthesia to support their argument, *see* Response Mot. Prelim. Inj. 14, but that article itself recognizes that pentobarbital is not an ultra-short-acting barbiturate: "[L]ittle is known about the hemodynamic effects of pentobarbital in humans, at least when given in the doses needed for neurosurgical purposes. *This contrasts with the large body of data concerning the effects of the ultrashort-acting anesthetic barbiturates such as thiopental*."). Todd, Drummond and Sang, Hemodynamic Effects of High Dose Pentobarbital: Studies in Elective Neurosurgical Patients, 20 NEUROSURGERY 559 (1987) (emphasis added).

Other authorities specific to the field of anesthesiology and outside the field of pharmacology likewise classify pentobarbital as a short-acting barbiturate. *See, e.g.*, Helen Lamb, The barbiturates: with particular reference to their use in anesthesia. Bulletin of the American

Association of Nurse Anesthetists. 1943;12(4): 228-29 (identifying pentobarbital as a barbiturate "of moderate duration" while identifying evipal, pentothal, and thio-ethymal as "ultra-short-acting barbiturates"); Torben Seear, Pentobarbital Anesthesia in Labor, M.D. AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY, Vol. 99, Issue 7, p. 955 (Dec. 1967) ("Pentobarbital is a short-acting, but not ultrashort-acting barbiturate."); Peter D. Bryson, *Comprehensive Review in Toxicology for Emergency Clinicians* 464 (3d. ed. 2018) (classifying Pentobarbital in the "Short – and Intermediate-acting" Barbiturate classification as opposed to the "Ultrashort-acting" classification); Sandra J. Cunningham & Waseem Hafeez, "Procedural Sedation and Pain Management Techniques," Textbook of Pediatric Emergency Procedures 423 (Christopher King & Fred M. Henretig eds., 2d ed. 2008) (identifying pentobarbital as "a short-acting barbiturate," as opposed to methohexital which is an "ultrashort-acting barbiturate").

Further, manufacturers of pentobarbital refer to it as a short-acting barbiturate. Not only does the FDA-approved branded manufacturer's insert for Nembutal Sodium Solution, which is the manufacturer's name for pentobarbital, state: "NEMBUTAL Sodium is a short-acting barbiturate," (Fritz Exh. 4), but the manufacturers for generic pentobarbital, Sagent and Leucadia, similarly state that pentobarbital is a short-acting barbiturate. *See* https://www.sagentpharma.com/wp-content/uploads/2017/11/Pentobarbital_PI-Revised.pdf; http://leucadiapharma.com/wp-content/uploads/2018/02/Pentobarbital_PI_Art_Clean.pdf.

The State repeatedly mischaracterizes testimony on the classification of barbiturates from a different expert, Dr. Mark Heath, in different litigation. Dr. Heath's testimony supports Rhines's position. Dr. Heath used the terms "ultra-short" and "ultra-fast" interchangeably, and he consistently referred to that category of barbiturates in "*contrast*" with pentobarbital. *Compare* State's Exhibit 8 at transcript page 21–22 ("I'll just start by comparing ultra-short and ultra-fast-

acting barbiturates which will enter the brain very quickly in a matter of tenths of seconds, and will also leave the brain very quickly . . . . and those drugs would be the class of drug would be thiopental, for example, and another would be a drug called methohexital."), *with id.* at transcript page 22 ("*By contrast*, pentobarbital is slower to take effect and lasts for longer." (emphasis added)). The State pulls quotations out of context, but even these quotations never establish that this different expert classified pentobarbital as "ultra-short-acting." *See, e.g.*, State's Exhibit 11 at transcript page 90 (explaining that the line dividing ultrafast from fast-acting barbiturates "is really a molecular line. . . . . [Molecular] modifications have created a class unto itself."). The State goes so far as to repeatedly cite the expert's testimony in *Smith*, the very premise of which was that pentobarbital is not an ultra-short-acting barbiturate. Thus, that there are "different ways" to classify barbiturates does not change that Dr. Heath never placed pentobarbital in any sort of "ultra-short" or "ultra-fast" category. *See* State's Exhibit 8 at transcript page 21.

Consistent with this evidence, numerous cases have recognized that pentobarbital is not a short-acting barbiturate. *See McGehee v. Texas Dep't of Criminal Justice*, No. MC H-18-1546, 2018 WL 3996956, at *2 (S.D. Tex. Aug. 21, 2018) ("Testimony in other cases has established that pentobarbital is 'not classified as an ultra-short-acting barbiturate.' *Mann v. Palmer*, 713 F.3d 1306, 1313 (11th Cir. 2013)."); *Bible v. Davis*, No. 4:18-CV-1893, 2018 WL 3068804, at *1 (S.D. Tex. June 21, 2018) ("Pentobarbital is an intermediate-acting barbiturate") (internal quotation omitted), aff'd, 739 F. App'x 766 (5th Cir. 2018); *West v. Schofield*, 519 S.W.3d 550, 553 (Tenn. 2017) (stating that pentobarbital is "described in [Tennessee's execution] Protocol as 'an intermediate-acting barbiturate'") (internal brackets omitted); *Grayson v. Warden, Comm'r, Alabama DOC*, 869 F.3d 1204, 1210 (11th Cir. 2017) (describing "pentobarbital, [as] a short-acting barbiturate sedative") (internal quotation marks omitted); *West v. Warden, Comm'r,*

Alabama DOC, 869 F.3d 1289, 1292 (11th Cir. 2017) (describing "pentobarbital, [as] a short-acting barbiturate sedative") (internal quotation marks omitted); *Whitaker v. Livingston,* No. CV H-13-2901, 2016 WL 3199532, at *1 (S.D. Tex. June 6, 2016) ("Pentobarbital is an intermediate-acting barbiturate."), *aff'd sub nom. Whitaker v. Collier,* 862 F.3d 490 (5th Cir. 2017); *Smith v. Montana,* No. BDV-2008-303, 2015 WL 5827252, *2 (Oct. 6, 2015) ("Barbiturates are traditionally classified as long-acting (phenobarbital), medium-acting (such as pentobarbital), short-acting (secobarbital), and ultra-short-acting (thiopental).") (Exh. A to the Compl.); *Williams v. Com., Dep't of Corr*., No. 353 M.D. 2014, 2015 WL 6474764, at *5 (Pa. Commw. Ct. Oct. 15, 2015) (considering challenge to inclusion of pentobarbital in execution protocol under statute requiring execution with "an ultrashort-acting barbiturate" and "chemical paralytic agents" and concluding: "taking Petitioners' allegation that pentobarbital and potassium chloride are neither ultrashort-acting barbiturates nor chemical paralytic agents as true, Petitioners have stated a claim that the Protocol violates the statute."); *Trottie v. Livingston,* No. CV 4:14-2550, 2014 WL 12527181, at *2 (S.D. Tex. Sept. 5, 2014) ("pentobarbital . . . is an intermediate-acting barbiturate.") (internal quotation omitted); *Arthur v. Thomas,* 974 F. Supp. 2d 1340, 1345 (M.D. Ala. 2013) ("Sodium thiopental is classified as an 'ultra-short acting barbiturate,' while pentobarbital is an 'intermediate-acting barbiturate.' As these classifications indicate, sodium thiopental has an extremely rapid onset of effect and subsequent recovery, while pentobarbital is slower and longer-acting."); *Arthur v. Thomas*, 674 F.3d 1257, 1274 (11th Cir. 2012) ("sodium thiopental is 'ultrashort-acting,' while pentobarbital is 'intermediate-acting'") (internal quotation and citation omitted); *Powell v. Thomas*, 643 F.3d 1300, 1304 (11th Cir. 2011) ("sodium thiopental is 'ultrashort-acting,' while pentobarbital is 'intermediate-acting'") (internal quotation and citation omitted); *In re Jacoby Airplane Crash Litig*., No. CIV.99-6073 (HAA), 2007 WL 5037683, at *22

(D.N.J. Aug. 27, 2007) ("The ultrashort-acting barbiturates produce anesthesia within about one minute after intravenous administration.... Barbiturate abusers prefer the Schedule II short-acting and intermediate-acting barbiturates that include amobarbital (Amyta®), pentobarbital (Nembutal®), secobarbital (Seconal®), and Tuinal (an amobarbital/secobarbital combination product).") (internal quotation and citation omitted). Nearly all of these cases arose in the lethal injection context thus belying Defendants' suggestion that pentobarbital's classification changes to ultra-short-acting when it is used in lethal doses for execution.

Defendants cite cases in their response that, they claim, state that there is no difference between sodium thiopental and pentobarbital. As described during the hearing, those cases arose in the context of Eighth Amendment challenges focused on various execution protocols' likelihood to produce unnecessary suffering. not one of them states that pentobarbital is classified as an ultra-short-acting barbiturate, the only issue before this Court. In fact, undersigned counsel is aware of no case that identifies pentobarbital as an ultra-short-acting barbiturate.

The plain language of the statute at issue here is clear. Just as the Court held in the *Smith* case, had the legislature intended to give the State of South Dakota latitude in what drugs to use, it could have used much more general language in the statute authorizing execution. Instead of "ultra-short-acting barbiturate" the legislature could have said "barbiturates in doses that have the effect of ultra-short-acting barbiturates." Courts may not legislate through judicial interpretation of statutes and the Court should not second-guess and substitute its judgment for that of the legislature, or insert what the legislature omitted.

II. As a Matter of Law, This Action Was Timely Brought And The Application Should Not Be Denied on the Basis of Defendants' Equitable Interest in Having Rhines Executed Next Week.

This action was not ripe until weeks ago and was timely brought within the time-frame set forth in SDCL § 23A-27A-32.1. That fact that Rhines was sentenced many years ago or the fact that he has litigated different rights previously over the years is of no consequence here. What matters here is that this action was not ripe until Rhines was informed that the DOC would be using pentobarbital and that he brought it more than seven days prior to his scheduled week of execution.

Whether an issue could have been properly litigated in an earlier action requires consideration of whether the issue actually had been ripe for determination at the time of that earlier action. *See State v. Hammerquist*, 67 S.D. 417, 293 N.W. 539, 541 (S.D. 1940) (declining to apply res judicata, noting "[a]t the time of hearing and decision resulting in the order, *that which was originally conditional had ripened* into an order setting the state's judgment aside" (emphasis added)); *Danforth v. City of Yankton*, 25 N.W.2d 50 (S.D. 1946) ("The case was submitted upon the assumption that there existed a controversy properly determinable under the Declaratory Judgment Law. If there was an absence of jurisdiction in the trial court to consider the questions presented, the declarations are advisory only and would not be res judicata.").

Ripeness involves the timing of judicial review and the principle that the judicial machinery should be conserved for problems that are real and present, not squandered on problems that are abstract, hypothetical, or remote. *Steinmetz v. State, DOC Star Academy*, 756 N.W.2d 392, 399 (S.D. 2008). Courts should not render advisory opinions or decide theoretical questions when the future shows no indication of the invasion of a right. *Id.*; *Boover v. South Dakota Bd. Of Accountancy*, 526 N.W.2d 747, 750 (SD 1995).

Here, Mr. Rhines could not have properly raised this issue in any prior litigation. Prior litigation focused on whether the 2007 statutory amendments and the August 2011 protocol complied with the Eighth Amendment standards as set forth by the United States Supreme Court in *Baze v. Rees*, 533 U.S. 35 (2008). *See* Feb. 27, 2013, Op., Trimble, J.at 8. Judge Trimble determined that the protocol was sufficiently similar to *Baze* that it was constitutional on its face, *id.* at 10–12, and that South Dakota would implement its protocol in a constitutional manner. *Id.* at 12–18.

There were no facts or issues relating to the statute in effect at the time of Mr. Rhines's sentencing or the use of an ultra-short-acting barbiturate. And for good reason. In 2011, there was no reason to believe that the State would not abide by the statutory requirement that, if elected, the state would deliver a lethal dose of an ultra-short acting barbiturate and chemical paralytic agent. The State possessed sodium thiopental, an ultra-short-acting barbiturate, and there was no reason to believe that the State would not use that drug in compliance with the statutory mandate.

Thus, at the time of the prior litigation, there was no concern that the State would choose to disregard the statutory mandate. The issues became ripe on October 17, 2019, when, in response to Mr. Rhines's election within the statutory timeline and under an active warrant, the State announced that it would use pentobarbital instead of the mandated ultra-short-acting barbiturate. Prior to that date, any issue concerning the use of pentobarbital in place of an ultra-short-acting barbiturate would have been speculative, abstract, and remote, and not the subject of judicial review. Res judicata does not apply.

Dated this 30th day of October, 2019.

BALLARD SPAHR LLP

By: /s/ Daniel R. Fritz

Daniel R. Fritz (2390)
Timothy R. Rahn (4871)
101 South Reid Street, Suite 302
Sioux Falls, SD 57103
Telephone: (605) 978-5200

Email: fritzd@ballardspahr.com
rahnt@ballardspahr.com

STATE OF SOUTH DAKOTA	)	IN CIRCUIT COURT
	:SS	
COUNTY OF MINNEHAHA	)	SECOND JUDICIAL CIRCUIT

CHARLES RUSSELL RHINES, Plaintiff, v. SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, SECRETARY, SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, AND DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY, Defendants.	CIV. 19-002940 **THIS IS A CAPITAL CASE EXECUTION SET FOR BETWEEN NOVEMBER 3, 2019 AND NOVEMBER 9, 2019**

AFFIDAVIT OF DANIEL R. FRITZ

STATE OF SOUTH DAKOTA)
:SS
COUNTY OF MINNEHAHA)

Daniel R. Fritz, being first duly sworn on oath, states and alleges as follows:

1. I am an attorney for Plaintiff Charles Russell Rhines in the above-captioned case, and I have knowledge of the matters herein.
2. Attached hereto as Exhibit 1 is a true and correct copy of selected pages from 1 Lawyers' Guide to Medical Proof § 106.02 (2019).
3. Attached hereto as Exhibit 2 is a true and correct copy of selected pages from 9 Attorneys Textbook of Medicine (Third Edition) P. 51.10 (2019).
4. Attached hereto as Exhibit 3 is a true and correct copy of selected pages from Peter D. Bryson, Comprehensive Review in Toxicology for Emergency Clinicians (3d. ed. 2018).

5. Attached hereto as Exhibit 4 is a true and correct copy of selected pages from Francisco López-Muñoz, et al., The History of Barbiturates a Century After Their Clinical Introduction, NEUROPSYCHIATRIC DISEASE AND TREATMENT, Vol. 1(4) (Dec. 2005).

6. Attached hereto as Exhibit 5 is a true and correct copy of selected pages from Torben Seear, Pentobarbital Anesthesia in Labor, M.D. AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY, Vol. 99, Issue 7 (Dec. 1967).

7. Attached hereto as Exhibit 6 is a true and correct copy of selected pages from Linda Lilley, et al., Pharmacology and the Nursing Process (9th ed. 2020).

8. Attached hereto as Exhibit 7 is a true and correct copy of selected pages from PHARMACOLOGY (Richard A. Harvey & Pamela C. Champe eds.) (4th ed. 2009).

9. Attached hereto as Exhibit 8 is a true and correct copy of selected pages from Sandra J. Cunningham & Waseem Hafeez, "Procedural Sedation and Pain Management Techniques," Textbook of Pediatric Emergency Procedures 423 (Christopher King & Fred M. Henretig eds., 2d ed. 2008).

10. Attached hereto as Exhibit 9 is a true and correct copy of selected pages from Carl Burtis et al., Tietz Textbook of Clinical Chemistry and Molecular Diagnostics 1325-26 & Table 34.10 (4th ed. 2006).

11. Attached hereto as Exhibit 10 is a true and correct copy of selected pages from Subcommittee on Anesthesia of National Research Council, Fundamentals of Anesthesia: An Outline 38 (American Medical Association Press 1942).

Dated this 30th day of October 2019.

Daniel R. Fritz

Subscribed and sworn to before me this 30th day of October, 2019.

(SEAL)

JUDY L. DECKER
Notary Public
SEAL
South Dakota

Notary Public – South Dakota

3/7/24

EXHIBIT 1

§ 106.02 Glossary of Prescription and Non-Prescription Drugs

-A-

Abacavir Sulfate. The FDA approved this drug in September 2008. It sold under the trademark Ziagen®, and is used in combination with other antiretroviral medications to treat HIV-1 infection. Abacavir Sulfate belongs to the class of drugs known as nucleoside reverse transcriptase inhibitors. The following reactions may indicate allergy or hypersensitivity to Abacavir Sulfate: skin rash, fever, nausea, vomiting, diarrhea, severe fatigue, severe achiness, sore throat, dyspnea, cough, pharyngitis or shortness of breath. If these symptoms are ignored, more severe symptoms may follow sometimes within hours, including life-threatening low blood pressure and death. This drug can also cause a condition called lactic acidosis, which, together with an enlarged liver, can be fatal. Because resistance to the HIV virus can occur quickly with single-drug treatment, Abacavir should be taken in combination with other antiretroviral medications and should never be taken alone to treat HIV.

Acetaminophen. Acetaminophen (N-acetyl-p-aminophenol; APAP; paracetamol) was clinically introduced in 1955 and has since become the most widely used over-the-counter analgesic-antipyretic in the United States. The drug is indicated for a wide variety of arthritic and rheumatic conditions involving musculoskeletal pain, as well as other painful disorders such as headaches and menstrual cramps. Acetaminophen is also recommended for the discomfort, common cold fevers, and other viral infections.

Lay people commonly underestimate acetaminophen's toxicity. For decades the drug was thought rarely to produce any side effects except for liver toxicity in patients who take excessive doses for an extended period of time. In 2001, however, researchers at the University of Texas Southwestern Medical Center in Dallas released a report suggesting that overdoses of acetaminophen could pose a greater risk of liver failure than several other prescription drugs that were removed from the market due to rates of liver toxicity.

Many consumers are unaware that many prescribed and over-the-counter medications contain some amount of acetaminophen thereby increasing the risk of accidental overconsumption of the drug. In March 2014, in effort to reduce the risks of inadvertent acetaminophen overdose, the FDA issued Federal Register notices that formally withdrew applications for all prescription drugs containing more than 325mg of acetaminophen per tablet, capsule, or other dosage unit. Manufacturers of previously approved products that contain more than 325mg discontinued marketing for those products while any pending applications for approval were voluntarily withdrawn in compliance with the FDA's request (FDA, 2014).

Acetaminophen with Codeine, Hydrocodone, Propoxyphene, or Oxycodone. Acetaminophen (e.g., Tylenol®) with codeine is used to treat mild to severe pain. Some of the side effects are constipation, nausea, drowsiness, anxiety, difficulty breathing, palpitations, rash, fever and sore throat, unusual bleeding or bruising and jaundice. Extreme drowsiness may result if taken with alcohol, antihistamines, barbiturates, Benzodiazepine tranquilizers, or tricyclic antidepressants. Liver damage may occur when taken with anticonvulsant drugs, barbiturates, and alcohol. Some individuals self-administer of acetaminophen with codeine to get "high." The product, therefore, should be kept away from individuals that have a history of substance abuse.

Acetazolamide. This drug, sold under the trade names Diamox® and Sequels®, is used to treat glaucoma, epilepsy and edema. Its major side effects may include back pain, black tarry stools, blurred vision, convulsions, difficulty urinating, fever, rash, jaundice or unusual bleeding or bruising, upset stomach, vomiting, and loss of

occur in elderly patients. Occasional hypersensitivity reactions have been observed, especially skin rashes which in some instances progressed to exfoliation.

Azathioprine (Azasan, Imuran). Patients are prescribed Azathioprine to protect against rejection of transplanted organs and to treat severe, active rheumatoid arthritis and other immunologic diseases. Possible adverse reactions include rapid heart rate, sudden fever, muscle or joint pain, cough, shortness of breath, infection or low blood count causing fever and chills, back pain, cough, painful urination, anemia, vomiting, appetite loss, jaundice, low platelet count causing bleeding or bruising, tarry or black stools, bloody urine, red spots under the skin, severe abdominal pain and mouth sores.

Use of azathioprine with other drugs may have severe consequences, especially allopurinol (increasing azathioprine activity), clozapine (potentially causing a toxic effect on bone marrow), tiopronin (increasing the risk of toxicity to bone marrow), immunosuppressants (increasing the risk of infection or malignancies), and vaccines (potentially decreasing effectiveness of vaccine or cause the disease itself).

Azathioprine may increase the risk of developing certain types of cancer, especially skin cancer and lymphoma (cancer that begins in the cells that fight infection). In kidney transplant patients, there may be a higher risk of developing cancer even for patients who do not take azathioprine. Azathioprine can cause a decrease in the number of blood cells in the bone marrow, which may cause serious or life-threatening infections. That risk is highest in patients who have a genetic (inherited) risk factor.

Azithromycin (Zithromax, Zmax). Azithromycin is an antibiotic used for respiratory tract infections and sexually transmitted diseases. Its major side effects include fever, palpitations, rash, swelling of the neck or face, jaundice, and shortness of breath. Azithromycin interacts with aminophylline, theophylline, carbamazepine, cyclosporin, phenytoin, digoxin, triazolam, phenobarbital, ergotamine, dihydroergotamine and blood thinners. Use with antacids decreases its effectiveness.

A 2012 study reported an increased number of cardiovascular-related deaths as well as an increased risk of death from unknown causes among individuals that were treated with a 5-day course of azithromycin (Zithromax) compared to individuals treated with amoxicillin or ciprofloxacin (Ray, et al., 2012).

-B-

Balsalazide (Colazal). The FDA approved Balsalazide in July 2000 under the brand name Colazal®. Balsalazide, is used to treat ulcerative colitis, a condition in which the bowel is inflamed. Balsalazide is an anti-inflammatory drug. It is converted in the body to mesalamine and works by reducing bowel inflammation, diarrhea, rectal bleeding, and stomach pain.

Side effects from balsalazide can occur such as: headache, abdominal pain, upset stomach, diarrhea, vomiting, joint pain, difficulty falling or staying asleep, tiredness, gas, runny nose, muscle or back pain, coughing, loss of appetite, urinary tract infection, constipation, or dry mouth. More serious side effects include yellowing of skin or eyes, dark urine, stomach bloating or swelling, increased diarrhea, rectal bleeding, fever, sore throat, or flu-like symptoms.

Barbiturates. Barbiturates are a class of drugs prescribed in low doses to reduce anxiety, nervous tension, or to aid sleep. Barbiturates produce a wide spectrum of central nervous system depression, from mild sedation to coma, and have been used as sedatives, hypnotics, anesthetics, and anticonvulsants. The primary differences among many of these products are how fast they produce an effect and how long those effects last. Barbiturates are classified as ultrashort, short, intermediate, and long acting. Higher dosages are used to reduce the likelihood of seizures in persons with epilepsy. An overdose of barbiturates may cause deep sleep, difficulty breathing, coma and weak pulse.

In rare cases, barbiturates may cause agitation, slow heartbeat, difficulty breathing, jaundice, and chest pain. Other more common side effects include unexplained bleeding or bruising, dizziness, drowsiness, “hangover,” rash or

hives on face or lip and eyelid swelling, sore throat, fever, depression, confusion, diarrhea, nausea, vomiting, joint or muscle pain, slurred speech, hallucinations and headache.

The ultrashort-acting barbiturates produce anesthesia within about one minute after intravenous administration. Those in current medical use are the Schedule IV drug methohexital (Brevital®), and the Schedule III drugs thiamylal (Surital®) and thiopental (Pentothal®). Barbiturate abusers prefer the Schedule II short-acting and intermediate-acting barbiturates that include amobarbital (Amytal®), pentobarbital (Nembutal®), secobarbital (Seconal®), and Tuinal (an amobarbital/secobarbital combination product). Other short and intermediate-acting barbiturates are in Schedule III and include butalbital (Fiorinal®), butabarbital (Butisol®), talbutal (Lotusate®), and aprobarbital (Alurate®). After oral administration, the onset of action is from 15 to 40 minutes, and the effects last up to six hours. These drugs are primarily used for insomnia and preoperative sedation. Veterinarians use pentobarbital for anesthesia and euthanasia.

Long-acting barbiturates include phenobarbital (Luminal®) and mephobarbital (Mebaral®), both of which are in Schedule IV. Effects of these drugs are realized in about one hour and last for about 12 hours, and are used primarily for daytime sedation and the treatment of seizure disorders.

Belladonna. Belladonna is used to reduce spasms of the digestive system, bladder and urethra. Possible adverse reactions or side effects include confusion, delirium, rapid heartbeat, nausea, vomiting, decreased sweating, constipation, rash or hives, eye pain, blurred vision and lightheadedness.

Use with other drugs may increase or decrease the effectiveness of belladonna. Although widely regarded as unsafe, belladonna is used as a sedative, to stop bronchial spasms in asthma and whooping cough, and as a cold and hay fever remedy. It is also used for Parkinson's disease, colic, motion sickness, and as a painkiller.

Benazepril (Lotensin®). Benazepril (Lotensin®) is an angiotensin-converting enzyme (ACE) inhibitor designed to treat high blood pressure. The drug may be contraindicated in patients who are allergic to other ACE inhibitors, as well as patients who have: (1) kidney disease (or who are on dialysis); (2) liver disease; (3) heart disease or congestive heart failure; (4) diabetes; or (5) a connective tissue disease such as Marfan syndrome, Sjögren's syndrome, lupus, scleroderma, or rheumatoid arthritis.

Also, patients should not use this medication without informing their physician if they are pregnant or planning to get pregnant, since the drug can cause birth defects if taken during pregnancy. It can also pass into breast milk and may harm a nursing baby.

Benzodiazepines. Benzodiazepines are a class of drugs used to treat seizure disorders, muscle spasms, nervousness and tension. They may also be prescribed for insomnia. Overdose may result in stupor or coma. Normal doses have side effects that include slow heartbeat, breathing difficulty, hallucinations, confusion, depression, irritability, rash, itchiness, vision changes, dry mouth, sore throat, fever, chills, vivid dreams, behavior changes, abdominal pain and headache. Use of Benzodiazepines in conjunction with other drugs may increase the effects of other drugs, possibly with dangerous results. For example, use with tranquilizers increases the tranquilizer's effect and may dangerously slow down the heartbeat. Use with other anticonvulsants may change the type and severity of seizure activity.

Short-acting benzodiazepines are generally used for patients with sleep-onset insomnia (difficulty falling asleep) without daytime anxiety. Shorter-acting benzodiazepines used to manage insomnia include estazolam (ProSom®), flurazepam (Dalmane®), temazepam (Restoril®), and triazolam (Halcion®). Midazolam (Versed®), a short-acting benzodiazepine, is utilized for sedation, anxiety, and amnesia in critical care settings and prior to anesthesia. It is available in the United States as an injectable preparation and as a syrup (primarily for pediatric patients).

Benzodiazepines with a longer duration of action are utilized to treat insomnia in patients with daytime anxiety. These benzodiazepines include alprazolam (Xanax®), chlordiazepoxide (Librium®), clorazepate (Tranxene®), diazepam (Valium®, halazepam (Paxipam®), lorazepam (Ativan®), oxazepam (Serax®), prazepam (Centrex®), and quazepam (Doral®). Clonazepam (Klonopin®), diazepam, and clorazepate are also used as anticonvulsants.

EXHIBIT 2

Author

Roger Cicala, M.D.
and
Robert Liebman

¶ 58.10 GENERAL ANESTHESIA

In providing general anesthesia during a surgical procedure the anesthesiologist is responsible for rendering the patient unconscious and relieving pain. In addition, an important function of the anesthesiologist is to maintain the patient's hemodynamic stability.

General anesthesia involves not only a loss of consciousness but also produces amnesia for the procedure. Either intravenous or inhalation agents can be used for general anesthesia. Often intravenous agents are used for induction of anesthesia because they act very quickly and inhalation agents are used for maintaining anesthesia because they provide better control of the depth of unconsciousness.

Injections of muscle relaxants may be given in order to relax the patient's skeletal muscles which is advantageous in many types of surgical procedures. Also, if a patient needs to be intubated a muscle relaxant is given to facilitate the procedure. Because muscle relaxants paralyze the respiratory muscles, it is critical that before such an agent is given the anesthesiologist is certain that the patient can be adequately ventilated.

During surgery the patient may breathe spontaneously, be assisted with breathing, or have breathing controlled. Breathing can take place either through a mask or an endotracheal (placed inside the trachea) tube. If lengthy controlled breathing is required an endotracheal tube is used and the patient is ventilated mechanically. (*See Figure 58-1.*)

During anesthesia induction and while under anesthesia the patient is carefully monitored. Standards for intraoperative monitoring have been set by the American Society of Anesthesiologists (ASA). One standard requires that when general anesthesia is used someone qualified in anesthesia must be present in the operating room at all times. Another standard requires that a continual evaluation be made of the patient's oxygenation, ventilation, circulation and temperature.

It is extremely difficult to assess the risk of death associated with anesthesia. It is known that the risk is very small, perhaps 1 in 100,000 for a healthy person. The overall mortality appears to be between 1 in 10,000 and 1 in 20,000 (Berthoud and Reilly, 1992). Over the last several decades as improvements in various aspects of anesthesia have occurred the risks have decreased considerably. It is likewise very difficult to assess the risk of serious morbid events associated with anesthesia but such risks are believed to also be very small. On the other hand, potentially serious events requiring intervention by the anesthesiologist do occur.

Although one of the main purposes of general anesthesia is to induce a state of unconsciousness, patients have reported that they were actually aware of what was happening during surgery. In one study of this phenomenon, 26 patients who reported awareness during surgery under general anesthesia were systematically interviewed (Moerman, et al., 1993). The most frequently reported memories were auditory perceptions and the sense of being paralyzed. Many of the patients also reported feeling pain. Feelings of anxiety, panic, powerlessness and helplessness were also commonly reported. Seventy percent of the patients said they had had unpleasant aftereffects such as flashbacks and anxiety during the day and sleep disturbances at night. In another study, 700 patients who underwent surgery involving cardiopulmonary bypass were interviewed postoperatively with regard to their recall of events during the surgical procedure (Phillips, et

cylinders attached to the anesthesia machine. The percentage of each carrier gas in the gas mixture is controlled by flowmeters. The liquid volatile agent is vaporized in a special vaporizer and is added to the carrier gases as they flow through. The process is calibrated so that there is specific volume percent of volatile anesthetic.

The gas mixture is delivered from the anesthesia machine to the patient via a breathing circuit. The most commonly used breathing circuit for adults is known as the circle system. For pediatric patients the Mapleson breathing circuits are used.

The circle system prevents the patient from rebreathing exhaled carbon dioxide, reduces the need for fresh inhalation anesthetic, and keeps the humidity higher. After passing through a chemical absorber in the breathing circuit to remove carbon dioxide, exhaled gases are allowed to pass into the scavenging system which delivers waste gases to a vacuum system. The remaining exhaled air is rebreathed along with freshly delivered gas.

Mapleson breathing circuits do not have an absorber to remove carbon dioxide. In these types of breathing circuits expired gas is washed out by the flow of fresh gas.

The patient may be allowed to breathe spontaneously, if able to, or ventilation may be assisted by compression of the reservoir bag on the anesthesia machine to direct gases into the lungs. Ventilation may also be controlled by a mechanical ventilator. Determination of whether ventilation is adequate is done by auscultation (listening with a stethoscope) of breathing sounds, and checking the reservoir bag or ventilator, and the monitors that are being used. Arterial blood gas analysis may also be needed.

An adequate depth of anesthesia to permit surgery is determined by the application of noxious stimuli. If a painful stimulus does not cause voluntary muscle reflexes or adverse autonomic responses such as hypertension, the depth of anesthesia is considered to be adequate.

The depth of anesthesia should not become too light or too deep. With inadequate anesthesia the patient may respond to surgical stimuli with movement. If the anesthesia is too deep, the patient may exhibit shallow or no respiration, dilated pupils that are not reactive and low blood pressure which may progress to circulatory collapse. If the depth of anesthesia is determined to be too deep steps should be taken immediately to lighten it.

[58.15] Intravenous Anesthetics

The intravenous anesthetics include barbiturates, narcotics, ketamine, benzodiazepines, etomidate and propofol. They are usually used for the induction of general anesthesia. In some cases these agents may be used for maintenance of general anesthesia, either alone or in combination with inhalation agents. When used for maintenance anesthesia these drugs may be given as a steady infusion or as repeated boluses.

[1] Barbiturates

The barbiturates that are given for anesthesia are classified as ultrashort-acting. Specific barbiturates that are used include thiopental, thiamylal and methohexital. These drugs produce anesthesia very quickly as unconsciousness occurs about half a minute after injection. They act fast because they immediately enter the bloodstream and soon thereafter reach the brain. Inhalation anesthetics act much more slowly because they have to be absorbed through the alveoli to enter the bloodstream. Recovery from barbiturate anesthesia is quick and takes about five to ten minutes.

The dosage of barbiturates for anesthesia induction is usually based on the patient’s weight. However, lower doses than normal should be given under special circumstances.

Extreme care must be taken when giving barbiturates intravenously to be sure that the drug does not infiltrate tissues outside of the vein or enter an artery. Severe pain or tissue damage can result because these agents are very alkaline.

Barbiturates should not be given to patients who have had an allergic reaction to a barbiturate. Also, barbiturates are contraindicated in patients who are believed to be at increased risk for porphyria (metabolic disturbances involving porphyrin, a chemical structure that is part of hemoglobin and some other molecules).

[2] Narcotics

Narcotics are not actually total anesthetics because their primary effect is analgesic. Therefore they are most often used as supplements to true anesthetics. In some circumstances, however, when given in high doses they may be used alone for anesthesia.

The narcotics that are frequently used in general anesthesia are morphine, meperidine, fentanyl, alfentanil and sufentanil. The latter two drugs are the most recent to be introduced into clinical practice.

Because sufentanil is a particularly potent analgesic, being about five to ten times as potent as fentanyl, it has become widely used for major surgery. It has been found to reduce the stress responses that occur during anesthesia and seems to be superior to fentanyl for postoperative analgesia (Isaacson, 1992).

Alfentanil, which is only about one fourth as potent as fentanyl, has a particularly short duration of action. Because its effects do not last long it is often used in the ambulatory surgical setting.

Narcotics can cause severe postoperative respiratory and central nervous system depression. However, this can be reversed by a narcotic antagonist, usually the drug naloxone. Because naloxone reverses the effects of narcotics, including the analgesic effects, a patient may experience pain as well as accompanying hemodynamic alterations after it is administered.

[3] Ketamine

Ketamine is an anesthetic that is generally used for induction. Unlike other intravenous agents which cause cardiovascular depression and decreased peripheral resistance with a resulting decline in cardiac output, hypotension, and increase in heart rate, ketamine stimulates the cardiovascular system. Ketamine results in an increase in arterial pressure, cardiac output and heart rate. Ketamine can be given intramuscularly as well as intravenously. This drug produces what is known as a dissociative anesthesia, which means that during recovery from ketamine anesthesia the patient may have vivid and disturbing dreams (Berthoud and Reilly, 1992). The incidence of this phenomenon has been reported to be as high as 30 percent. Only very rarely, however, do these disturbances result in prolonged psychological problems.

[4] Benzodiazepines

Benzodiazepines are generally used as supplementary drugs in general anesthesia but they may also be used for anesthesia induction. These agents produce sedation and amnesia. They have very little analgesic effect. When benzodiazepines are given with narcotics, care must be taken to avoid excessive respiratory depression. There are three benzodiazepines that are used in general anesthesia: diazepam, lorazepam and midazolam. The first two drugs are given orally or via the intravenous route, while midazolam may be given either intravenously or intramuscularly.

The effects of benzodiazepines can be reversed by using the benzodiazepine antagonist flumazenil (Hoffman and Warren, 1993). Flumazenil can reverse sedation, respiratory depression and amnesia. However, since flumazenil has a relatively short half-life resedation may occur after the initial dose. Therefore, in some cases, additional doses may be required.

[5] Etomidate

Etomidate is an intravenous anesthetic that is most often used to induce general anesthesia. Etomidate is classified as a hypnotic (a drug that induces sleep). It does not have analgesic properties. Because its effects on the cardiovascular system are minimal it is often preferred for inducing anesthesia in patients with hemodynamic instability.

[6] Propofol

Propofol is an intravenous anesthetic that became available for clinical use in the United States in 1989. It is used for both anesthesia induction and maintenance and is classified as a sedative/hypnotic (Deegan, 1992). Propofol depresses the central nervous system as well as the cardiovascular and respiratory

EXHIBIT 3

COMPREHENSIVE REVIEW IN TOXICOLOGY for Emergency Clinicians

· THIRD EDITION ·

Peter D. Bryson, M.D.

Comprehensive Review in *Toxicology* for Emergency Clinicians

Third Edition

Peter D. Bryson, M.D.
Director, Denver Institute
of Clinical Toxicology
Denver, Colorado

CRC Press
Taylor & Francis Group
Boca Raton London New York

CRC Press is an imprint of the
Taylor & Francis Group, an **informa** business
A TAYLOR & FRANCIS BOOK

Comprehensive Review in Toxicology for Emergency Clinicians, Third Edition

First published 1996 by Taylor & Francis

Published 2018 by CRC Press
Taylor & Francis Group
6000 Broken Sound Parkway NW, Suite 300
Boca Raton, FL 33487-2742

ISBN-13: 978-1-56032-612-0 (hbk)

A CIP catalog record for this book is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Bryson, Peter D.
Comprehensive review in toxicology for emergency clinicians / Peter D. Bryson. — 3rd ed.
p. cm.
Includes bibliographical references and index.
1. Toxicological emergencies. 2. Toxicology. 3. Drugs of abuse—Toxicology. 4. Drugs—Overdosage. I. Title.
[DNLM: 1. Poisoning. 2. Emergencies. 3. Poisons. 4. Substance Abuse. QV 600 B915c 1997]
RA 1224.5.B79 1997
615.9—dc20
DNLM/DCL
for Library of Congress 96-9209
CIP

TABLE 47–1. *Classification of barbiturates by duration of action*

Ultrashort-acting
Thiopental
Methohexital
Buthabital
Hexobarbital
Thiamylal
Short- and intermediate-acting
Amobarbital
Aprobarbital
Butabarbital
Butalbital
Pentobarbital
Secobarbital
Talbutal
Long-acting
Phenobarbital
Mephobarbital
Metharbital

elimination is primarily by metabolic degradation or excretion, and the rate of removal of the active drug from the central nervous system. On the basis of these differences in the duration of action, barbiturates are classified into three categories: ultrashort-acting, short- and intermediate-acting, and long-acting (Table 47–1) (1). The anticonvulsant primidone (Mysoline) is metabolized to phenobarbital and thus should be considered a barbiturate (4).

Following oral administration, the onset of action varies from 10–30 minutes for amobarbital, aprobarbital, butabarbital, pentobarbital, and secobarbital and from 20–60 minutes for metharbital, mephobarbital, and phenobarbital. There appears to be little difference in duration of the hypnotic action among barbiturates used orally as hypnotics (9). For this reason, barbiturates have recently been grouped according to their intended pharmacologic action, sedative-hypnotic or anesthetic, rather than according to the duration of their action, since classification problems also arose when it was found that the length of time that the drug action persisted did not parallel the time it took to eliminate half the dose of the drug, the elimination half-life. Although the old classification is not used, nothing has been devised to replace it. However, because of the convenience of categorizing barbiturates as to their duration of action, this method is used in this chapter.

The fatal dose of barbiturates with intermediate or short half-lives is usually lower than the fatal dose of drugs with longer half-lives. For example, to induce severe poisoning, it takes less pentobarbital than phenobarbital when they are compared on a milligram-to-milligram basis (3).

Ultrashort-Acting Barbiturates

The ultrashort-acting barbiturates are thiopental, methohexital, buthabital, hexobarbital, and thiamylal (10). These drugs are not a source of abuse, and there should be no occasion to see an overdose with these drugs in an emergency department setting.

Short- and Intermediate-Acting Barbiturates

The short-acting and intermediate-acting barbiturates, such as secobarbital and pentobarbital, are used for induction of general anesthesia. Their relatively swift onset and short duration of action allow for general anesthesia that is rapid and easily reversible. Ease of titration and low acute toxicity in usual doses add to their usefulness (2).

The short- and intermediate-acting barbiturates have an onset of action of 15–40 minutes and a duration of 6 hours. These drugs are the most widely used and abused barbiturates, both separately and in combination. They include, among others, pentobarbital, secobarbital, amobarbital, and butalbital (Table 47–2). Tuinal is a combination of amobarbital and secobarbital and is a favored drug for abuse. Overdoses of the short acting barbiturates have the highest mortality rate (4,11).

Long-Acting Barbiturates

The long-acting barbiturates have an onset of action of approximately 1 hour and a duration of action of up to 16

TABLE 47–2. *Selected trade names of commonly abused barbiturates*

Amobarbital
Amytal
Aprobarbital
Alurate
Butabarbital
Butal
Butalan
Butapan
Butazem
Buticaps
Butisol
Soduben
Butalbital
Florinal
Metharbital
Gemonil
Pentobarbital
Nembutal
PBR/12
Phenobarbital
Luminal
Phen-Squar
Sedadrops
Secobarbital
Seconal
Talbutal
Lotusate

EXHIBIT 4

The history of barbiturates a century after their clinical introduction

Francisco López-Muñoz[1]
Ronaldo Ucha-Udabe[2]
Cecilio Alamo[1]

[1]Department of Pharmacology, University of Alcalá, Madrid, Spain; [2]WHO Fellow in Psychopharmacology and Biological Psychiatry, National University of Buenos Aires, Argentina

Abstract: The present work offers an analysis of the historical development of the discovery and use of barbiturates in the field of psychiatry and neurology, a century after their clinical introduction. Beginning with the synthesis of malonylurea by von Baeyer in 1864, and up to the decline of barbiturate therapy in the 1960s, it describes the discovery of the sedative properties of barbital, by von Mering and Fischer (1903), the subsequent synthesis of phenobarbital by this same group (1911), and the gradual clinical incorporation of different barbiturates (butobarbital, amobarbital, secobarbital, pentobarbital, thiopental, etc). We describe the role played in therapy by barbiturates throughout their history: their traditional use as sedative and hypnotic agents, their use with schizophrenic patients in so-called "sleep cures" (Klaesi, Cloetta), the discovery of the antiepileptic properties of phenobarbital (Hauptmann) and their use in the treatment of epilepsy, and the introduction of thiobarbiturates in intravenous anesthesia (Lundy, Waters). We also analyze, from the historical perspective, the problems of safety (phenomena of dependence and death by overdose) which, accompanied by the introduction of a range of psychoactive drugs in the 1950s, brought an end to barbiturate use, except in specific applications, such as the induction of anesthesia and the treatment of certain types of epileptic crisis.

Keywords: barbiturates, history of medicine, sedative-hypnotic drugs, "sleep cures", epilepsy, anesthesia

Introduction

Throughout the history of humanity, numerous therapeutic agents have been employed for their hypnotic and/or sedative properties, though the true effectiveness of many of them has been fairly limited (Alamo et al 1998). It suffices to mention alcohol itself (in different forms, such as hydromel or wine) or the alkaloids of opium and other narcotic plants (hemp, jimsonweed, belladonna, henbane, etc). More recently, around the late 19th and early 20th centuries, agents such as paraldehyde, chloral hydrate, and bromides were used, until the discovery, at the beginning of the 20th century, of the sedative and hypnotic properties of barbiturates, thanks to the prior synthesis of malonylurea by Adolf von Baeyer in 1864.

The clinical introduction of barbiturates begun a century ago (1904) when the Farbwerke Fr Bayer and Co brought onto the market the first agent of this type, diethyl-barbituric acid, giving rise to profound changes in the pharmacological approach to the psychiatric and neurological disorders of the time. A large number of previously untreatable patients gained access to treatment and improved their prognosis. The most significant results were obtained in the treatment of patients with serious neuroses and psychoses and with severe emotional repression, who as a result of being administered barbiturates, especially intravenously, overcame their inhibitions, thus facilitating psychotherapeutic treatment. Barbiturates were also useful in the treatment of sleep disorders as well as being the first truly effective

Correspondence: Francisco López-Muñoz
Department of Pharmacology, University of Alcalá, C/ Juan Ignacio Luca de Tena 8, 28027 Madrid, Spain
Tel +34 91 724 8210
Fax +34 91 724 8205
Email frlopez@juste.net

pharmacological tools for the management of epileptic seizures. Furthermore, they opened up the field of intravenous anesthesia, playing a prominent role in anesthetic induction, above all for minor operations.

In the course of the 20th century, more than 2500 barbiturates were synthesized, 50 of which were eventually employed clinically. Their use was widespread and many still have some use today. One hundred years after the introduction in clinical pharmacology of the original compound, oxybarbiturates, in general, continue to be the selected drugs in the treatment of some serious forms of insomnia and in some types of epilepsy. Similarly, some thiobarbiturates and some ultrashort-acting barbiturates are still used today as inducers of general anesthesia. Nevertheless, currently, 5 or 6 derivates of barbiturates are sufficient to cover the therapeutic applications that still require them.

Sedative and anticonvulsant drugs in the pre-barbiturate era

Although, as mentioned, the therapeutic agents historically employed for their sedative, hypnotic, or anticonvulsant effects have been quite numerous, the most specific drugs in this regard have their origin in the 19th century. Such is the case of choral hydrate, different alkaloids and, above all, bromides (Hollister 1983; Sneader 1985; Scott 1992; Lehmann 1993; Shorvon and Sander 1996; Shorter 1997; Alamo et al 1998; Healy 2002).

The second half of the 19th century is called by some authors, such as Shorter (1997), the "alkaloids era". Alkaloids were introduced into psychiatry as sedatives and hypnotics, thanks to the isolation of morphine from opium, in 1805, by the German pharmacist Friedrich Sertürner. In 1861, Wilhelm Griesinger, in the second edition of his *Die Pathologie und Therapie der Psychischen Krankheiten*, defended the use of opium in sleep disorders, pointing out the improvements it brought about in patients suffering from anxiety. However, the alkaloids that met with most success were those isolated from different species of the *Solanaceae* family: plants known for their hallucinogenic effects, such as hyoscyamus, whose sedative and hypnotic properties were described by the Viennese pharmacologist Karl Schroff in 1868. In 1839, chemists at the E Merck company in Darmstadt (Germany) had already isolated hyoscyamine, another alkaloid, which became popular in the late 19th century, forming part of many of the "cocktails" administered in neuropsychiatric institutions at that time (Woodward 1994). Finally, the year 1880 saw the isolation of hyoscine (called scopolamine in North America), an alkaloid that was also widely used in psychiatric cocktails, such as the famous Hyoscine Co A, which contained hyoscine, morphine, and atropine, and was administered to highly excited and aggressive manic patients (Norton 1979).

The first drug that could truly be called hypnotic is chloral hydrate. Synthesized in 1832 by Justus von Liebig, a chemist from Giessen, it was not analyzed as a hypnotic until 1869 by the Berlin pharmacologist Oskar Liebreich. The hypothetical mechanism to which its action was ascribed was based on the mistaken belief that, in vivo, chloral hydrate was capable of transforming itself into formic acid and chloroform, whose properties were already known at that time (Sourkes 1992). Very soon, chloral hydrate substituted morphine and the *Solanaceae* alkaloids, given its convenience, as it could be administered without the need for injection, allowing treatment in the home and making it unnecessary to confine patients to neuropsychiatric institutions (Shorter 1997).

Nevertheless, it would be the bromides that were most widely used in the second half of the 19th century, either as sedatives or for the treatment of epilepsy, having been introduced for these applications by the internist and obstetrician Sir Charles Locock in 1857. It was in that year that Locock reported his results in the treatment with bromides in women with what the author has named as catamenial or hysteriform epileptic seizures, obtaining positive outcomes in 14 women out of a sample of 15. From that time on, bromides were widely introduced in asylums and similar institutions throughout Europe, given their sedative and antiepileptic properties, the relevant function in the latter case being to reduce the expression of the epileptic patients' sexuality. Another contribution in relation to the neuropsychiatric use of bromides was made by the British doctor Neil MacLeod, who in 1897, while working in Shanghai, carried out the first "sleep cure" with these salts. MacLeod called it "the bromide sleep" (MacLeod 1900), and some authors, such as Shorter (1997), have considered this technique as the first pharmacological therapy that, within psychiatry, succeeded in improving the symptoms of psychiatric patients. However, the main problem with bromides resided in their high toxicity (neurological and gastrointestinal disorders, irritability, hallucinations, deliria, and lethargy), given their long half-life (elimination taking around 12 days) and their capacity for accumulation in tissue; as a result, they were gradually phased out after the introduction of barbiturates in the early part of the 20th century (Balme 1976).

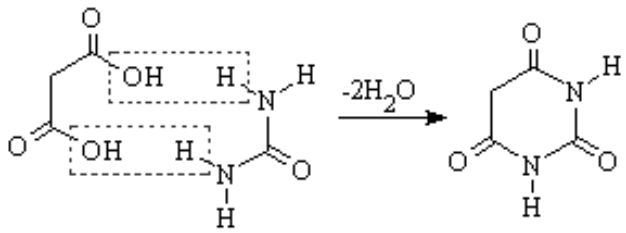


Figure 1 Synthesis of barbituric acid, from the combination of malonic acid (left) and urea (right).

Other substances used as hypnotics and sedatives and eventually as anticonvulsants were also introduced in the 19th century and the early decades of the 20th century. Such is the case of paraldehyde, discovered by Wildenbusch in 1829 and introduced into clinical practice by Vincenzo Cervello in 1882; and sulphonal, whose hypnotic action was discovered by chance by Eugen Baumann and Alfred Kast in 1887 (Kast 1888). Finally, those seeking to treat epilepsy turned, as well as to potassium bromide, chloral hydrate, or hyoscine, to a whole host of substances of more questionable efficacy, including opium, belladonna, atropine, stramonium, strophanthus, *cannabis indica*, and zinc oxide.

The discovery and clinical introduction of barbiturates as sedative and hypnotic agents

Between the 1920s and the mid-1950s, practically the only drugs used as sedatives and hypnotics were barbiturates (Lehmann and Ban 1970). From a chemical point of view, these drugs are closed-chain ureic compounds, whose nucleus is malonylurea (a combination of urea, a product present in animal excrement, and malonic acid, an acid derivative taken from apples) (Figure 1). Barbiturates were synthesized in 1864 by Adolf von Baeyer, though the synthetic process was developed and perfected by the French chemist Edouard Grimaux in 1879, making possible the subsequent widespread development of barbiturate derivatives (Carter 1951). Von Baeyer, a disciple of Robert W Bunsen and Friedrich A Kekulé, taught at the universities of Strasbourg and Munich, was the founder of what was to become the Bayer Chemical Co, and received the Nobel Prize in Chemistry in 1905 for his contribution to the development of organic chemistry (Figure 2a).

There are various hypotheses about the origin of the term "barbiturates" (Dundee and McIlroy 1982). According to one of these, Baeyer may have used this name for the compounds for sentimental reasons, in honor of his friend Barbara (Cohen 1943). Other authors, however, claim that the name derives from the fact that Baeyer celebrated his discovery in a tavern near his home that was frequented by artillery officers, who themselves were celebrating the day of their patron, St Barbara (Sharpless 1970). A third possibility is that the term is inspired by the "barbed" appearance of the crystals of these ureic compounds (Fieser 1944). In any case, it is clear that the union of the elements "barb(ara)" and "urea" forms the basis of the name.

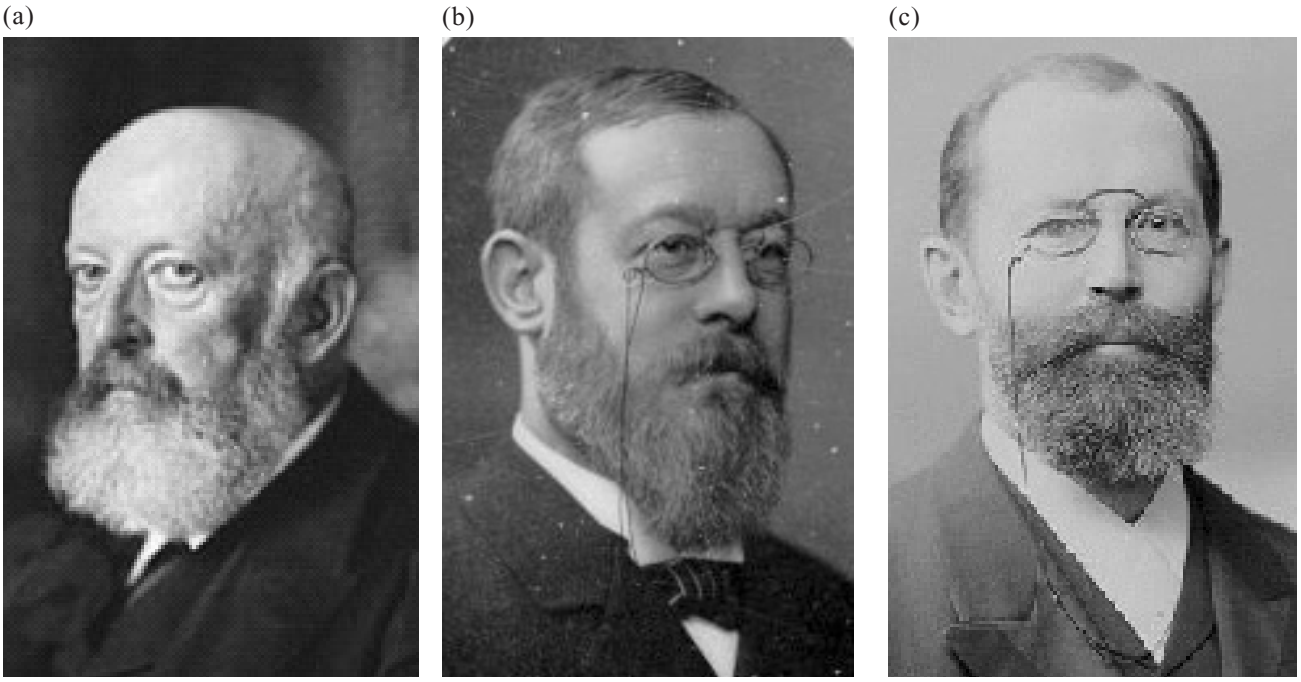


Figure 2 (a) Adolf von Baeyer (1835–1917); (b) Josef von Mering (1849–1908); (c) Emil Fischer (1852–1919).

From malonylurea to barbital

The first of the barbiturates to come onto the market was diethyl-barbituric acid, also known as barbital, malonal, or gardenal. Synthesized in 1881 by Conrad and Guthzeit, on treating the argentic salt of barbituric acid with ethyl iodide, it was introduced clinically as a hypnotic by the German companies E Merck (Darmstadt) and F Bayer and Co (Elberfeld) in 1904, thanks to the work of Josef Freiherr von Mering (Figure 2b) and Emil Fischer (Nobel Prize in Chemistry, 1902) (Figure 2c).

Von Mering, who taught pharmacology at the University of Halle, had observed that some of the synthetic compounds obtained towards the end of the 19th century and commercialized as hypnotics, such as sulphonal, contained in their molecular structure a carbon atom with two ethyl groups. Furthermore, knowing of von Baeyer's work with derivatives of urea, von Mering decided to study the hypnotic properties of diethyl-acetylurea, and found that it was even more potent than sulphonal. The next step was to analyze the properties of 5,5-diethyl-barbituric acid, for which he turned to Fischer, an old friend from his student days. At that time, Fischer, doyen of the German organic chemists, was Professor of Chemistry at the University of Berlin. Moreover, Fischer was well acquainted with the chemistry of malonylurea, as he had been von Baeyer's assistant in Munich for eight years. Together with his nephew Alfred Dilthey, he tested the new, resynthesized product, demonstrating, in dogs, that its hypnotic power was far greater than that of von Mering's diethyl-acetylurea (Sneader 1985). When Fischer told his friend von Mering about this finding, the latter happened to be in the Italian city of Verona, and it was this that prompted him to call the new drug Veronal® (Cohen 1943; Sharpless 1970). Nevertheless, other authors argue that the name Veronal (from Latin, verus = true) was coined by Fischer, who claimed to have found the "true" hypnotic compound (Sneader 1985). This new hypnotic drug was patented by Fischer in January 1903, and two months later the first scientific data on barbiturates were published in a brief report (Fischer and von Mering 1903). The licence for its commercialization in the USA was granted to the Winthrop Chemical Company.

The term barbital for diethyl-barbituric acid is a later development, coming as a result of the economic effects of World War I. After the United States entered the conflict, in 1917, Congress passed the Trading with the Enemy Act 1917, which permitted them as a kind of war booty to manufacture German products protected by patent, modifying their generic name and with the profits going to the American subsidiaries of the German companies (Sneader 1985). Thus, the American Medical Association approved the name barbital, whilst in the United Kingdom, through a similar mechanism, diethyl-barbituric acid came to be called barbitone. From this point on the two endings "-al" and "-one" could be found in the nomenclature of barbiturates.

Veronal had hypnotic, sedative, and anticonvulsant properties (Figure 3a). It could calm manic patients and help melancholic patients to sleep, and was an effective inducer of sleep in insomniacs. The first trials with barbital were carried out by Hermann von Husen (1904), a young psychiatrist affected by sleep disorders, who tried the new drug on himself. After taking 0.5 g of Veronal the first night and 1 g the following night, he reports:

> In both cases, after 10–15 minutes, I fell into a growing state of dejection that led to deep sleep after around 30 minutes. After half a gram of Veronal I slept for 8 hours, and after a whole gram, around 9 hours. On the first morning I awoke fresh and rested; on the second morning, after the higher dose, I found it difficult to get out of bed (von Husen 1904, p 59).

The consolidation of barbiturate therapy: phenobarbital

By means of small modifications to the chemical structure of the barbituric acid molecule, more than 2500 different agents were synthesized. The first barbital analogs, numbering around 18, were synthesized and tested by the group made up of von Mering, Fischer, and Dilthey. One of them, perhaps that most widely used subsequently, was phenobarbital, synthesized by Hörlein in 1911, on substituting one of the ethyl groups by a phenyl radical. Phenobarbital was employed in therapy as a hypnotic for the first time in 1912 by Loewe, Juliusburger, and Impens, and that same year it was commercialized by F Bayer and Co, under the name Luminal®. Phenobarbital, with a more prolonged pharmacological action than its predecessor, soon became "king of the barbiturates", both in hospitals and in outpatient care (Shorter 1997). This drug opened up the way, moreover, to another important therapeutic application of barbiturates, as will be mentioned later: the treatment of epilepsy.

Both Veronal (barbital) and Luminal (phenobarbital), the first two representatives of the series of barbiturates, were accepted by the international pharmacopoeia, such as the *United States Pharmacopoeia* (USP X) in 1926, and the *British Pharmacopoeia* in 1914 and 1932, respectively.

Later, both drugs were also included in the *Pharmacopoeia Internationalis*.

Clinical introduction of the new barbiturates

The new barbiturates brought substantial advantages compared with their classical predecessors, such as a greater potency and duration of action, as well as a wider therapeutic range. However, of the several thousand that were synthesized, only about 50 came onto the market, and of these no more than a couple of dozen were regularly used in clinical practice. The next barbiturate to be used successfully in therapy was butobarbital, whose history begins in World War I. The British war effort required large quantities of acetone for the manufacture of explosives (Sneader 1985), and one of the solutions was provided by Chaim Weizmann, who would later become the first president of the state of Israel. Weizmann found that the bacteria *Clostridium acetobutylicum* was capable of transforming materials rich in starch into acetone and butyric alcohol, and at low industrial cost. After the war, the cost of butyric alcohol, a chemical that was as useful as it was expensive, fell drastically, thus permitting its use for obtaining numerous synthetic drugs. In 1920, Roger Adams (Abbott Laboratories, Chicago, USA) synthesized the ester of 5-butyl-5-ethyl-malonic acid, an intermediate stage in the synthesis of a butyl analog of barbital, which was finally synthesized by Arthur Dox (Parke Davis and Company, Detroit, USA) in 1922, and marketed the following year by Abbott Laboratories, under the name Neonal® (Sneader 1985). Butobarbital (butethal in the USA) was three times as strong as barbital and its period of action was much shorter due to its lipophilicity, which greatly lowered the possibility of "rebound" drowsiness the day after administration.

In the years that followed, new barbiturates continued to come onto the market. In 1923, it was amobarbital (Amytal®), synthesized by Shonle and Moment (Eli Lilly Company, Indianapolis, USA) by adding a carbon atom to the butyl chain of butobarbital; and in 1929, Horace A Shonle also synthesized secobarbital (Seconal®). Both barbiturates had quite similar pharmacological properties to those of butobarbital (Sneader 1985). The next drugs of this series to be introduced were pentobarbital (Nembutal®), synthesized by Volwiler and Tabern (Abbott Laboratories) in 1930, and thiopental (Pentothal®). The latter, a sulfur derivative of pentobarbital, presented at the American Chemical Society congress in San Francisco in August 1935 (Tabern and Volwiler 1935), would revolutionize intravenous

(a)

(b)

Figure 3 (a) Elixir Veronal from Dr Bustamante's Laboratories it is a "Practical treatment of insomnia". They have also added audaciously "Secure and harmless". Finally they say that "it tastes good and acts smoothly, being absorbed by the organism". (b) Advertisement for Abbott sodium pentobarbital in an American medical journal of 1933, highlighting its "short but powerful hypnotic effect and prolonged sedative action from small dosage".

Table 1 Mean and maximum dosage of the pharmacological agents used as hypnotics before the benzodiazepine era

Drug	Dosage per administration: Mean dosage	Dosage per administration: Maximum dosage	Daily maximum dosage
Ethchlorvynol	250 mg	500 mg	750 mg
Chloral hydrate	500 mg	1000 mg	1000 mg
Paraldehyde	3 mL	8 mL	8 mL
Glutethimide	250 mg	500 mg	500 mg
Methyprylon	200 mg	400 mg	400 mg
Methaqualone	200 mg	400 mg	600 mg
Phenobarbital	50–100 mg	200 mg	200 mg
Amobarbital	50–100 mg	200 mg	200 mg
Secobarbital	100 mg	200 mg	200 mg
Pentobarbital	100 mg	200 mg	200 mg
Sodium tripental	250 mg	500–1000 mg	–

NOTE: The doses indicated correspond only to the hypnotic use of these drugs. The maximum doses of the barbiturates are not considered when they are used as anticonvulsants.

anesthesia and would be the only representative of the thiobarbiturate family to be officially recognized, being accepted first by the *British Pharmacopoeia* (1942, 7th Add) and subsequently by the *United States Pharmacopoeia* (1947, USP XIII) and the *Pharmacopoeia Internationalis* (1951, Volume I). Figure 3b shows an advertisement for pentobarbital in an American journal of the time.

Table 1 shows the recommended dosages of barbiturates used as hypnotics together with those of other drugs also used as hypnotics prior to the clinical introduction of benzodiazepines at the end of the 1950s. Among these last agents, chemically different from barbiturates although with similar pharmacological actions, we have to mention glutethimide (USV Pharmaceutical Corporation, 1954), methyprylon (Hoffmann-La Roche, 1955), methaqualone (King George Medical College, Lucknow, India, 1956; William H Rorer Inc, 1965), chlormethiazole (Hoffmann-La Roche, 1956), and ethchlorvynol (Pfizer, 1956). Most of these drugs were introduced as barbiturate substitutes, due to the fact that they seemed to offer a wider margin of safety. However, the clinical experience has demonstrated that their addiction liability and the severity of withdrawal symptoms were similar to those of barbiturates, and most of them were removed from the market some years later.

The role of barbiturates in "sleep cures" for schizophrenic patients

The hypnotic properties of some barbiturates were rapidly applied to the treatment of psychotic patients, thanks to their induction of a state of deep and prolonged sleep. The pioneer of these techniques was the Italian psychiatrist Giuseppe Epifanio, working at the University Psychiatric Clinic in Turin, who described his technique in an article published in 1915. The lack of impact of this development on the international scientific community can be attributed to the fact that it was published only in an Italian journal, and in the middle of the Great War (Epifanio 1915). It was on 25th March 1913 that Epifanio administered the first dose of Luminal to a girl aged 19 (FL) affected by manic-depressive psychosis, extending the treatment over a period of 4 days. The patient fell into a "deep sleep" that lasted until 9th April, was discharged at the end of June, and was in remission during the next two years. This case marked the beginning of what Manfred Bleuler would describe in 1955 as "the first of the great physical therapies" for mental disorders (Windholz and Witherspoon 1993).

However, the clinical introduction of these techniques is historically associated with Jakob Klaesi, a psychiatrist at the University Psychiatric Clinic in Zurich (Psychiatrische Universitätsklinik, Burghölzli, Switzerland). His "sleep cures" ("Dauerschlaf", "Dauernarkose"), proposed in 1920 within the framework of the 59th Assembly of the Swiss Psychiatry Society (28th November 1920), enjoyed great prestige at the time and directly involved the use of barbiturates. Klaesi's initial proposal was that his techniques for inducing deep hypnosis, taken from Epifanio, would facilitate communication between patient and psychotherapist ("to achieve a better relationship between doctor and patient") (Shorter 1997, p 204). Klaesi introduced his method in Switzerland, and based it on pre-medication with morphine (0.01 mL) and scopolamine (0.001 mL) and the subsequent administration (intravenous or subcutaneous), over at least 6–7 days, of Somnifen® (Figure 4), a mixture of diethyl and dipropenyl-barbituric acid and diethylamine (2–4 mL), manufactured by the Hoffmann-LaRoche company. The percentage improvements reported by Klaesi, in samples of schizophrenic patients, ranged from 25% to 33%, which is 10% higher than the rates of spontaneous remission in this type of patient (Klaesi 1922). These cures ("prolonged sleep therapy") acquired great popularity during the 1920s, with numerous variations as regards methodology and applications (agitated schizophrenic patients, delirium tremens, autism, morphine dehabituation, etc), though the administration of Somnifen was always involved (Windholz and Witherspoon 1993). Nevertheless, it is important to consider a fact mentioned in the first publication on the effectiveness of the method in schizophrenic patients: three of the 26 patients recruited died during the study due to

Figure 4 The packaging of Somnifen®, produced by Hoffmann-LaRoche.

bronchopneumonia or hemorrhages in the cardiac muscles (Klaesi 1922). A few years later, some authors set the mortality rate with Somnifen at around 5% (Müller 1927).

The legacy of Somnifen was taken up at the same Swiss clinic in Burghölzli by pharmacologist Max Cloetta and psychiatrist Hans W Maier, who sought a compound that would be better tolerated. In 1934, they prepared a compound based on paraldehyde, amylen hydrate, chloral hydrate, alcohol, ephedrine hydrate, digalen, and isopropyl-allyl-barbituric acid, which they called Cloettal® or "Cloetta Mixture", and which was rectally administered (Cloetta and Meier 1934). This preparation was widely used in schizophrenic patients, not only in the Zurich clinic (Boss, Monnier), but also elsewhere, such as in the Soviet Union by Ivan P Pavlov (Windholz and Witherspoon 1993). The most rigorous study with this mixture was carried out in Burghölzli by Marcel Monnier, who, with a sample of 125 schizophrenic patients, applied strict exclusion criteria (elderly patients and those with renal or respiratory disorders) before applying the preparation. Only 84 patients were given the Cloetta Mixture, and 53 of them improved (40 were even discharged from the hospital). Nevertheless, two patients died during the treatment as a result of respiratory complications associated with the medication (Monnier 1936).

Eliot Slater, of the Maudsley Hospital in London, recalled that "sleep cures" were "the only treatment we had back in the 1930s that was of any value in acute psychotic disorders" (Slater 1975, p 74). After this initial period, the use of "sleep cures" based on barbiturates began to decline due in part to problems of safety, as well as to the clinical introduction of new biological therapies for the treatment of schizophrenic patients such as Sakel's (1935) insulin shocks or the cardiazolic shocks of von Meduna (1937). Even so, as Shorter (1997) points out, "the story of barbituric narcosis has a corollary". This refers to the work of D Ewen Cameron in the mid-1950s at the Psychiatry Department of the Allan Memorial Institute in Montreal (Canada). Financed by the Central Intelligence Agency (CIA), Cameron developed his technique of "psychic driving" (Cameron 1956), a prototype version of what would come to be known commonly as "brainwashing". With this technique, in which barbiturates were also used, Cameron intended to take advantage of prolonged sleep to force his patients to listen to propaganda messages, which, in this case, were designed to quicken their recovery. In spite of its aims, eminently clinical, this work was widely criticized in the mass media at the time.

Barbiturates as antiepileptic agents

With phenobarbital, in addition to confirmation of the excellent hypnotic effect of barbiturates, it was demonstrated that these drugs had significant anticonvulsant properties. The discovery of these properties took place in 1912, the year of their commercialization, and provided another example of serendipity in the field of psychopharmacology. Alfred Hauptmann, resident psychiatrist in Freiburg, was given responsibility for the care of epileptic inpatients. Finding it impossible to sleep properly because of the continual convulsive seizures of his patients, Hauptmann decided to administer them some of the new hypnotics on the market, among them phenobarbital. Surprisingly, Hauptmann observed that the incidence of seizures in patients treated with low doses of phenobarbital fell notably, not only during the night, but also during the day (Hauptmann 1912). One of Hauptmann's most important conclusions was that phenobarbital not only reduced the number of seizures, but also their intensity, allowing many patients to leave the institutions and enjoy a normal working life.

It was in this way that the anticonvulsant properties of barbiturates were discovered, phenobarbital being the first truly effective drug for the treatment of epilepsy (Iváñez and Díez-Tejedor 1998). Table 2 shows, by way of example,

Table 2 Anticonvulsant drugs used at the National Hospital (Queen Square) in London, before and after the clinical introduction of phenobarbital in the treatment of epilepsy

1910		1930	
Drugs of definite benefit	**Drugs of doubtful benefit**	**Drugs of definite benefit**	**Drugs of doubtful benefit**
Bromides	Monobromate of camphor	Bromides	Zinc salts
Chloral hydrate	Eosinate of sodium	Bromide combinations	Iron
Glycerophosphates	Chloretone	**Phenobarbital**	Digitalis
Borax	Antipyrin	Borax	Strophanthus
Belladonna		Double tartrate of	Calcium
Zinc salts		borax and potassium	Opiates
Opium		Belladonna	Hypnotics
Strychnine		Nitroglycerine	
Chloride of calcium			
Atropine			

Adapted from Shorvon and Sander (1996).

the anticonvulsant agents commonly employed in the treatment of epilepsy before and after the introduction of phenobarbital.

However, the international acceptence of phenobarbital as an antiepileptic drug was seriously delayed, due first of all to the scarce significance outside Germany of the journal in which Hauptmann published the reports of his work (*Münchener Medizinische Wochenschrift*), and secondly, to the outbreak of World War I. Indeed, phenobarbitone was not commercialized in Great Britain until 1923, by the Winthrop Chemical Company. In one of his first reports on the use of phenobarbitone in England, Charles Brooks, Colony Medical Officer at the Chalfont Centre in London, noted its particular efficacy in severe cases of convulsions and in epileptic conditions with associated mental deficiency. Brooks also mentioned that if the barbiturate did not show a certain degree of effectiveness in the first months of treatment, the result of the therapy would not be satisfactory, so that it would be necessary to find an alternative (Brooks 1922). In a later report, Brooks made a close examination of patterns of use of phenobarbitone, concluding that it was more effective than bromides, but that it was not particularly useful in patients with low-intensity seizures (Brooks 1923).

It was precisely the Chalfont Centre that published, at the end of the 1920s, one of the first therapeutic guides for newly admitted epileptic patients, written by F Haward (Shorvon and Sander 1996). According to this guide, potassium bromide was the first-choice treatment, though it should be substituted by phenobarbital if there was no remission in the seizures within a given period of time (Table 2). If after three months of treatment the improvement was not clear, the guide recommended treatment with a combination of Luminal® and potassium bromide. Moreover, it set down the recommended dosage for phenobarbitone: 1 grain (65 grams) in the morning and another at night for adult patients, and 1/2 grain in the case of children; the dose was to be increased gradually, according to the clinical response, but should never exceed 6 grains per day (Haward 1928). At the beginning of the 1930s, the use of phenobarbital superseded definitively that of bromides in the treatment of epileptic seizures, despite the first reports of pharmacological tolerance and the risk of seizures when withdrawal was too abrupt. Phenobarbital is currently the most widely-prescribed antiepileptic drug in the world (Shorvon 2000), even though in the developed countries it has passed onto a secondary plane in therapy, for the treatment of partial and generalized seizures, due to its profile of adverse effects.

In the years following the discovery of the antiepileptic properties of phenobarbital, there were studies of numerous barbiturate derivatives in the field of epilepsy, the most important being mephobarbital (Prominal®) (Weese 1932) and, above all, deoxybarbital or primidone (Mysoline®). Primidone was synthesized by Bogue and Carrington (Imperial Chemical Industries Ltd, ICI, Manchester, UK) in 1949, demonstrating its antiepileptic activity in patients with generalized seizures in 1952 (Handley and Stewart 1952). Initially, primidone awoke great therapeutic interest, as it was thought that its anticonvulsant effectiveness may be greater than that of other available barbiturates, and without sedative effects (Bogue and Carrington 1953), but this interest soon waned after it was demonstrated that phenobarbital was a metabolite of this drug, together with phenyl-ethyl-malonamide (Butler and Waddell 1956). Comparative clinical studies carried out with phenobarbital and its prodrug, primidone, showed no differences between

the two (Oleson and Dam 1967). Currently, primidone is still considered as being of some use in partial and secondary generalized seizures, but is not a first-choice drug. Unlike phenobarbital, it cannot be used in epileptic status, since no galenic formulation has been developed for its parenteral administration.

The discovery by Houston Merritt and Tracy Putnam (Boston City Hospital, USA) in 1938 of the anticonvulsant properties of phenytoin (the first drug to show that an antiepileptic need not be a hypnotic), in 1944 of trimethadione, and in the late 1950s of carbamazepine, extended the spectrum of antiepileptic drugs, resulting in decreased use of barbiturates in these applications.

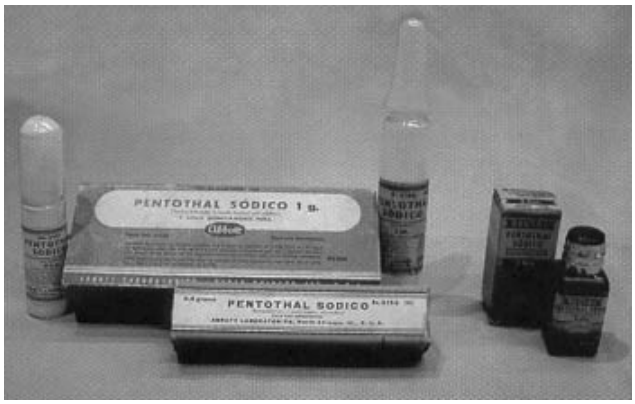


Figure 5 The packaging of Abbott Pentothal® at the time of its clinical introduction in the late 1930s. Pieces from the Museum of the Buenos Aires Anaesthesiology Association (Argentina).

The use of barbiturates in intravenous anesthesia

Despite the existence of some publications on the use of Somnifen® as a general anesthetic as early as 1921 by the French anesthetist Daniel Bardet – who noted that his patients woke up very slowly and with serious headaches (Bardet 1921) – the first barbiturate to be used systematically in anesthesia was sodium sec-butyl-(2-bromo-allyl)-barbiturate (Pernocton®). This was introduced into the field by the German obstetrician Bumm in 1927 (Bumm 1927). Subsequently, as new barbiturates were synthesized for their oral administration as sedatives, sodium salts of the same drugs were formulated, which could be administered intravenously and used as anesthetics (Dundee and McIlroy 1982). Notable among the pioneers in this field is John S Lundy of the Mayo Clinic (Rochester, USA), who introduced sodium amobarbital (1929) and sodium pentobarbital (1930) in anesthesia.

The addition of a methyl group to the butobarbital molecule, by the chemists Kropp and Taub at Bayer (IG Farbenindustrie, Leverkusen) in the early 1930s, gave rise to hexobarbital, whose sodium salt (Evipal®), introduced into clinical anesthesia in 1932 (Weese and Scharpff 1932), constituted the first barbiturate agent that induced anesthesia. Ten years after its introduction, more than 10 million people had undergone operations with the help of this drug (Adams 1944). The duration of hexobarbital's action was shorter than that of its predecessors, given its greater lipophilicity, but under its effect some muscular movements occurred. This problem was solved through the next modification of the chemical structure of the basic nucleus of the barbiturates, the addition of a sulfur group to pentobarbital. Thus born were the agents that would revolutionize intravenous anesthesia, the thiobarbiturates, thanks to the work of Volwiler and Tabern of Abbott Laboratories (Tabern and Volwiler 1935). These agents were studied as anesthetics at the Mayo Foundation (Rochester) by John Lundy's group, who gave the sulfur derivative of pentobarbital the name Thionembutal®. Its sodium salt was marketed as Pentothal (Figure 5). The team led by Ralph M Waters at the University of Wisconsin Medical School (Madison, USA) were the first to begin clinical administration of Pentothal, and published their results in 1936 (Pratt et al 1936). This agent rapidly displaced the rest of the barbiturates as an anesthetic, partly due to the swiftness of its onset and its short action period, and it currently remains the preferred intravenous anesthetic in many types of surgical intervention. Despite the anesthetic efficacy of both hexobarbital and thiopental, the barbiturates most commonly employed in surgery in the mid-20th century, they were not without their clinical problems. Such problems were brought to the public eye in particularly unfortunate fashion after the involvement of these agents, apparently due to malpractice, in numerous cases of death in patients treated in states of shock after the Japanese attack on Pearl Harbor in December 1941. Some authors went as far as describing these drugs as providing the "ideal form of euthanasia" (Halford 1943).

After World War II the search for anesthetic barbiturates continued, and new compounds such as thiobutobarbital (Horatz and Stürtzbecher 1952) were introduced, though the only one that truly challenged thiopental was methohexital (Brietal®), developed by SM Chernish's group at Lilly Research Laboratories (Indianapolis, USA) in 1956. In clinical trials, methohexital showed itself to be more potent than thiopental and to lead to quicker recovery in patients; it was recommended for use as an anesthetic

inducer in minor outpatient surgery (Taylor and Stoelting 1960). The subsequent development of other anesthetic agents for intravenous administration (hydroxydione, alphaxalone, etomidate, propofol, etc) led to a reduction in the use of barbiturates in this context.

The peak and decline of barbiturate therapy

As mentioned earlier, chemists from different universities and pharmaceutical companies managed to synthesize over 2500 barbiturate derivates. The differential pharmacokinetic properties of these agents made it possible to draw up a practical clinical classification, based on the duration of their pharmacological action (Hollister 1983). Thus, the barbiturates in the category of short or intermediate action (secobarbital, amobarbital, pentobarbital) were employed initially as hypnotics, whilst those of prolonged action (phenobarbital) were widely used as anxiolytics and anticonvulsants; ultrashort-acting agents, notably sodium thiopental, were especially useful as anesthetic inducers for minor operations (Table 3). From time to time, some barbiturates have been used in the treatment of other disorders. One such case is the use of primidone in the management of essential tremor (Koller et al 2000), while another is that of combinations of barbiturates and analgesics (salicylates, codeine, etc) in the treatment of headaches, migraines, and other types of pain (Wolf et al 1941), though such applications are considered counterproductive today.

Some barbiturates, such as sodium amytal and sodium pentothal (the latter being known as "the truth serum") were widely known and used as coadjuvant agents for the exercise of narcoanalysis, as initially developed by Bleckwenn in 1930 (Bleckwenn 1930a, 1930b). In principle, the application of an infusion of barbiturates reverted temporarily the catatonic state of certain schizophrenic patients. These cures for catatonia allowed patients, for a few hours, to maintain conversations and interact with their environment, before returning to their state of lethargy. Despite the fact that the response was somewhat brief, these cures were quite customary in European asylums in the 1930s and 1940s. But a variety of this technique became widespread during and after World War II: it consisted of the intravenous administration of a short-acting barbiturate, which had a disinhibiting effect (potentiating positive transfers) and facilitated the subsequent exercise of psychotherapy (a phenomenon referred to as "cathartic abreaction") (Lehmann 1993). This technique was also called by other authors the "induced crepuscular method".

It was during the 1930s and 1940s that barbiturates attained their greatest popularity and were most widely used, putting them in a position that could be compared, according to Hollister (1983), to that currently held by benzodiazepines. The barbiturates most commonly used at that time were phenobarbital, sodium amobarbital, sodium secobarbital, sodium pentobarbital, and sodium thiopental. Despite their widespread use during the first half of the 20th century, no barbiturate succeeded in eliminating the main drawbacks of these drugs, which were the phenomena of dependence and death by overdose (Johns 1977). Among the paradoxes of destiny is the possible death through overdose of the two scientists who introduced the first barbiturate, Fischer and von Mering, after some years of dependence upon these substances (Escohotado 1996). To reduce these problems, from a legal perspective, a series of laws were passed aimed at regulating the distribution and sale of barbiturates. The first of these came into force in California in 1929. However, its effects were limited, if we consider, for example, that the production of barbiturates in the USA increased by more than 400% from 1933, with some 70 tons of these drugs sold in 1936. The problem continued during the following decade, and it became necessary to arrange special conferences for all those involved, such as that held in Washington, under the auspices of the American Pharmaceutical Association, on 12th October 1945 (*Conference on the Regulation of Use and Distribution of Barbiturates*). Barbiturate use in the pre-benzodiazepine period was such that, in the USA alone, production of these drugs reached, in 1955, the quantity

Table 3 Classification and principal clinical applications of the barbiturates most commonly employed before World War II

	Barbiturates	Trade name	Chemical name	Clinical indications
Long-acting	Phenobarbital	Luminal	5-ethyl-5-phenylbarbituric acid	Sedative
Intermediate-acting	Amobarbital	Amytal	5-ethyl-5-isopentylbarbituric acid	Hypnotic
Short-acting	Pentobarbital	Nembutal	5-ethyl-5-(1-methylbutyl)-barbituric acid	Hypnotic and anticonvulsant
	Secobarbital	Seconal	5-allyl-5-(1-methylbutyl)-barbituric acid	Hypnotic
Ultrashort-acting	Thiopental	Pentothal	5-ethyl-5-(1-methylbutyl)-thiobarbituric acid	Anesthesia inducer

Adapted from Hollister (1983).

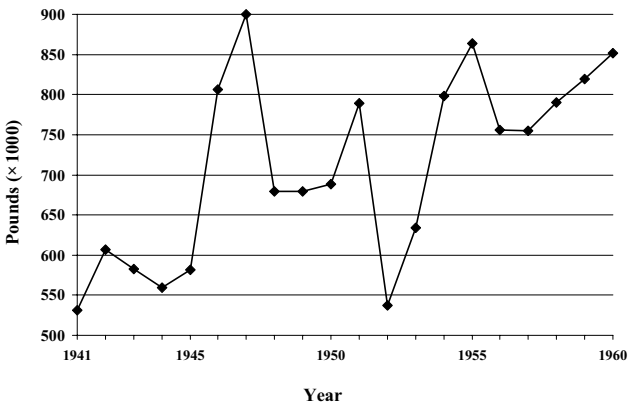


Figure 6 Evolution of annual barbiturates production in USA for the period 1941–1960. Adapted from Fort (1964).

necessary for the treatment of 10 million people throughout an entire year. Figure 6 shows the industrial production of barbiturates and their derivatives in the USA during the 1940s and 1950s.

The capacity of barbiturates to cause dependence was described in the medical literature as early as one year after the commercialization of barbital ("the Veronal habit"), though reliable evidence of the potential of these drugs to generate abuse was not available until the 1950s (Glatt 1962). In fact, doses 4–6 times higher than the therapeutic dose as hypnotics of the short-acting barbiturates (400–600 mg/day of amobarbital, secobarbital, or pentobarbital) brought about, if the treatment was sufficiently prolonged, authentic withdrawal syndromes when use was stopped. In order to palliate these effects, the Narcotics Expert Committee at the World Health Organization recommended (at their sessions of 7th–12th January, 1952, and 18th–24th October, 1956) that barbiturates should only be available on medical prescription. In spite of this, and according to different estimates, in 1965 there were 135 000 barbiturate addicts in England, whilst in the United States it was declared, by a special drug-dependence committee set up by President Kennedy in 1962, that there may be as many as 250 000 Americans addicted to barbiturates. Indeed, the USA currently produces 30 barbiturate pills per inhabitant per year (Escohotado 1996). Some barbiturates (amobarbital and pentobarbital) have even found their way into mixtures with amphetamine derivatives (*goofballs*), such as Dexamyl®, a combination of dextroamphetamine and amobarbital.

In relation to the frequent cases of death by overdose, given the small therapeutic margin of these substances, it should be pointed out that this was a common method in suicide attempts. It suffices to recall, in this regard, the famous case of Marilyn Monroe, on whose death certificate it clearly states "acute poisoning by overdose of barbiturates" (Figure 7). The lethal effect of these compounds was such that a mixture of barbiturates with other substances

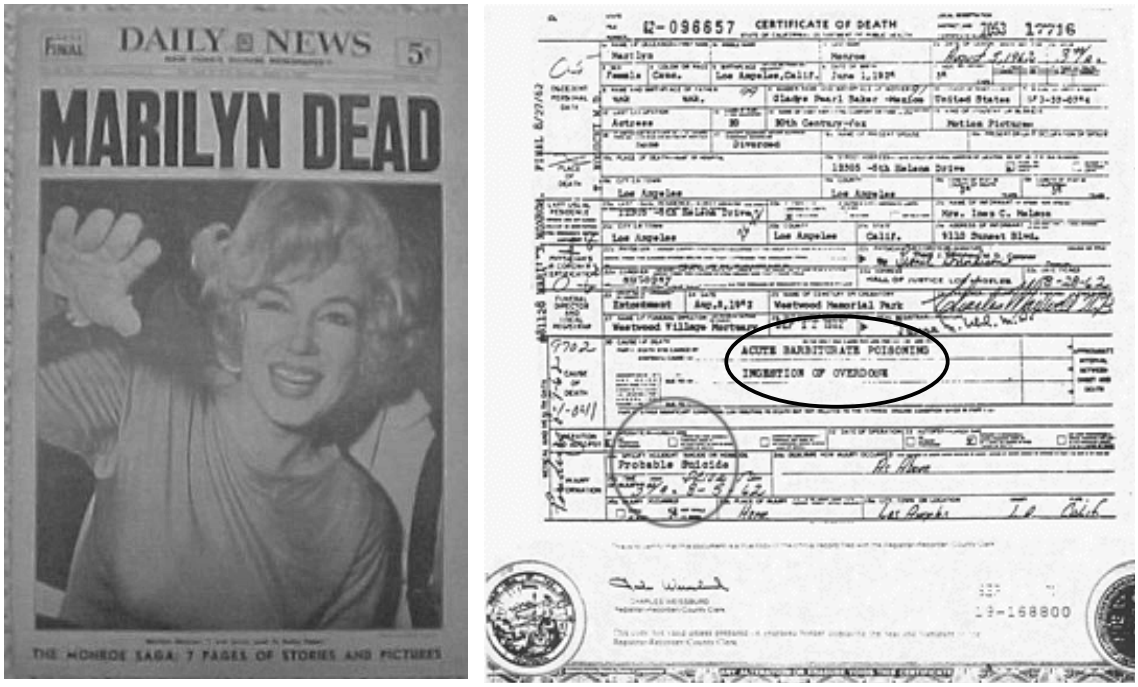


Figure 7 Death certificate of the actress Marilyn Monroe, issued on 28th August 1962. The circles indicate cause of death ("Acute barbiturate poisoning. Ingestion of overdose") and the intentionality ("Probable suicide").

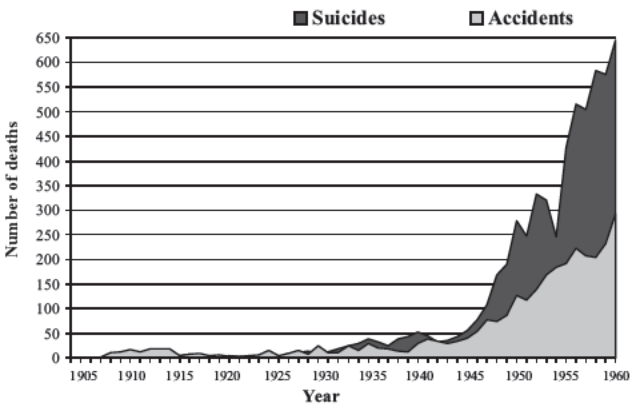


Figure 8 Deaths from overdose of barbiturates in England and Wales during the period 1905–1960 (Registrar-General's Statistical Review for England and Wales). Includes both accidental deaths and suicides. Adapted from Glatt (1962).

was even employed in some USA states for the execution of prisoners sentenced to death. Furthermore, there are classic reports of fatal overdose due to the "automatism phenomenon", whereby the patient would take his or her dose, only to forget that he or she had already taken it, given the amnesic effect of the drug, and take it again, this process being repeated several times (Richards 1934). Figure 8 shows the evolution of number of deaths (accidental or suicide) by barbiturate overdose in England and Wales for the period 1905–1960. In this regard, and in the city of New York alone, in the period 1957–1963, there were 8469 cases of barbiturate overdose, with 1165 deaths (Sharpless 1970), whilst in the United Kingdom, between 1965 and 1970, there were 12 354 deaths attributed directly to barbiturates (Barraclough 1974). These data should not surprise us, since in a period of just one year (1968), 24.7 million prescriptions for barbiturates were issued in the United Kingdom (Plant 1981). In view of these data, the Advisory Council Campaign in Britain took measures restricting the prescription of these drugs. Meanwhile, the prescription of prolonged-acting sedative barbiturates was strongly opposed through citizens' action campaigns such as CURB (Campaign on the Use and Restrictions of Barbiturates), especially active during the 1970s.

Furthermore, during the 1950s, when the use of barbiturates was at its peak, there took place a veritable revolution in the approach to psychiatric disorders, thanks to the introduction into clinical practice of the first pharmacological tools aimed specifically at treating these patients (Caldwell 1970; Jacobsen 1986; Ayd 1991; Lehmann 1993; Frankenburg 1994; López-Muñoz et al 2000; Ban 2001; Healy 2002). This "psychopharmacological revolution" began with the discovery and clinical use, from 1952, of chlorpromazine (López-Muñoz et al 2004), culminating in the commercialization of the first benzodiazepine, chlordiazepoxide, in 1960. The discovery of benzodiazepines was actually made possible, in part, by the 60 years of clinical and basic research provided by barbiturates, whose therapeutic life, from that time on, began to decline.

Barbiturates today

Currently, the use of barbiturates is circumscribed to quite specific therapeutic applications (Charney et al 2001). Thus, phenobarbital and butabarbital are still used as sedatives in cases of gastrointestinal and asthmatic functional disorders, as well as to antagonize the adverse central stimulant effects of some drugs, such as ephedrine, dextroamphetamine, or theophylline. Phenobarbital is also used in cases of withdrawal syndromes of hypnosedative agents. In the field of neurology, barbiturates (phenobarbital and primidone) are still employed, not only in the treatment of certain types of epilepsy (partial and tonic-clonic generalized seizures), but also in the emergency treatment of some types of convulsions, such as those associated with tetanus, eclampsia, cerebral hemorrhage, status epilepticus, or different forms of poisoning. As intravenous anesthetic inducers, ultrashort-acting barbiturates are of use, mainly thiopental and methohexital, the latter also being administered rectally in children or as a sedative in some diagnostic imaging explorations. Table 4 shows the therapeutic applications of barbiturates that have survived to the present day.

In addition to these approved indications, the barbiturates present other current uses. Phenobarbital is capable of improving the hepatic transport of bilirubin in patients with hemolytic jaundice, so that it can be used in newborn babies to treat hyperbilirubinemia and kernicterus. At a diagnostic level, amobarbital, in low doses, can be injected directly into the carotid artery prior to neurosurgery to identify the dominant cerebral hemisphere. Finally, anesthetic doses of barbiturates can attenuate post-surgical cerebral edemas and have positive effects in cases of cardiac and cerebral ischemia, reducing the size of the infarcted region. Moreover, barbiturates have been used since the 1970s in the management of acute traumatic brain injury in their capacity to reduce intracranial pressure (Marshall et al 1979). The mechanism through which high-dose barbiturates appear to exert their intracranial pressure-lowering effects is double: reduction of metabolism (with the consequent lower oxygen demand by cerebral tissue)

Table 4 Barbiturates currently employed and therapeutic applications

Barbiturate	Routes of administration	Therapeutic uses
Amobarbital	Oral, IM, IV	Insomnia Preoperative sedation Emergency management of seizures
Aprobarbital	Oral	Insomnia
Butabarbital	Oral	Insomnia Preoperative sedation
Mephobarbital	Oral	Epilepsy Daytime sedation
Methohexital	IV	Induction/maintenance of anesthesia
Pentobarbital	Oral, rectal, IM, IV	Insomnia Preoperative sedation Emergency management of seizures
Phenobarbital	Oral, IM, IV	Epilepsy Status epilepticus Daytime sedation
Primidone	Oral	Epilepsy
Secobarbital	Oral, rectal, IM, IV	Insomnia Preoperative sedation Emergency management of seizures
Thiopental	Rectal, IV	Induction/maintenance of anesthesia Preoperative sedation Emergency management of seizures

Adapted from Charney et al (2001).
Abbreviations: IM, intramuscular; IV, intravenous.

and modifications in vascular tone (Kassell et al 1980). Additionally some direct neuroprotective effects, such as membrane stabilization or inhibition of free radical-mediated lipid peroxidation, have been postulated (Piatt and Schiff 1984). Despite results of the multicenter randomized clinical trial published by Eisenberg et al (1988) that demonstrated the efficacy of high-dose barbiturates in severely head-injured patients with intractable intracranial pressure elevations, recent collaborations, based in Cochrane methodology, concluded that there is no evidence of health improvement in this type of patient (Roberts 2000).

The barbiturates introduced clinically one century ago were the first pharmacological agents to have demonstrated – in an historical period that was therapeutically inhospitable – a real efficacy in different neuropsychiatric disorders. They were the first-line treatment as hypnotics and anticonvulsants during the first half of the 20th century. The clinical results obtained in the last years in other indications such as the treatment (acute or prophylactic) of traumatic brain injury, although contradictory, seems to confirm that, from the pharmacological perspective, the barbiturates continue furnishing certain novelties and that in their history the last page has not yet been written.

References

Adams RC. 1944. Intravenous anesthesia. New York: Hoeber.

Alamo C, López-Muñoz F, Echániz T, et al. 1998. Fármacos ansiolíticos, sedantes e hipnóticos. In López-Muñoz F, Alamo C (eds). Historia de la Neuropsicofarmacología. Una nueva aportación a la terapéutica farmacológica de los trastornos del Sistema Nervioso Central. Madrid: Ediciones Eurobook SL. p 245–68.

Ayd FJ. 1991. The early history of modern psychopharmacology. *Neuropsychopharmacology*, 5:71–84.

Balme R. 1976. Early medicinal uses of bromides. *J Royal Coll Physic*, 10:205–8.

Ban TA. 2001. Pharmacotherapy of mental illness. A historical analysis. *Prog Neuro-Psychopharmacol Biol Psychiatr*, 25:709–27.

Bardet D. 1921. Sur l'utilisation. Comme anésthésique géneral, d'un produit nouveau, le diéthyl-diallyl-barbiturate de diéthylamine. *Bull Gén Thèrap Mèd Chirurg Obstètr Pharm*, 172:27–33.

Barraclough BM. 1974. Are there safer hypnotics than barbiturates. *Lancet*, i:57–8.

Bleckwenn WJ. 1930a. Narcosis as therapy in neuropsychiatric conditions. *JAMA*, 95:1168–71.

Bleckwenn WJ. 1930b. Production of sleep and rest in psychotic cases. *Arch Neurol Psychiatry*, 24:365–75.

Bogue JY, Carrington HC. 1953. The evaluation of mysoline – a new anticonvulsant drug. *Br J Pharmacol*, 8:230–5.

Brooks C. 1922. Report of the Medical Officer. The National Society for Epileptics. Thirtieth Annual Report. p 19.

Brooks C. 1923. Report of the Medical Officer. The National Society for Epileptics. Thirty-first Annual Report. p 23.

Bumm R. 1927. Intavenose Narkosen mit Barbitur-saurederivaten. *Klin Wochenschr*, 6:725–6.

Butler TC, Waddell WJ. 1956. Metabolic conversion of primidone (Mysoline) to phenobarbital. *Proc Soc Exp Biol NY*, 93:544–66.

Caldwell AE. 1970. History of psychopharmacology. In Clark WG, Del Giudice J (eds). Principles of psychopharmacology. New York: Academic Pr. p 9–30.

Cameron DE. 1956. Psychic driving. *Am J Psychiatry*, 112:502–9.

Carter MK. 1951. The history of barbituric acid. *J Chem Educ*, 28:525–8.

Cervello V. 1882. Sull' azione fisiologica della paraldeide e contributio allo studio del cloralio idrato. Ricerche. *Arch Soc Med*, 6:177–214.

Charney DS, Mihic SJ, Harris RA. 2001. Hypnotics and sedatives. In Hardman JG, Limbird LE (eds). Goodman & Gilman's The Pharmacological Basis of Therapeutics. 10th ed. New York: MacGraw-Hill. p 399–427.

Chernish SM, Gruber CM, Demeyer M, et al. 1956. Double blind comparison of compound 22451, pentothal and surital. *Fed Proc*, 15:409.

Cloetta M, Maier AW. 1934. Über eine Verbesserung der psychiatrischen Dauernarkosebehandlung. *Zeitsch gesamte Neurol Psychiatrie*, 164:146–62.

Cohen WAT. 1943. Chemisch-Historische Aanteekeningen. De nomenclatuur van enkele organische zuren. *Chemisch Weekblad*, 40:176.

Conrad M, Guthzeit M. 1881. Über Barbitur-saurederivate. *Berichte*, 14:1943.

Dundee JW, McIlroy PDA. 1982. The history of the barbiturates. *Anaesthesia*, 37:726–34.
Eisenberg HM, Frankowski RF, Contant CF, et al. 1988. High-dose barbiturate control of elevated intracranial pressure in patient with severe head injury. *J Neurosurg*, 69:15–23.
Epifanio G. 1915. L'ipnosi farmacologica prolungata e sua applicazione per la cura di alcune psicopatici. *Riv Patol Nerv Mentale*, 20: 273–308.
Escohotado A. 1996. Historia elemental de las drogas. Barcelona: Editorial Anagrama.
Fieser LF. 1944. Organic chemistry. Boston: DC Heath and Company. p 247.
Fischer E, von Mering J. 1903. Ueber ein neue Klasse von Schlafmitteln. *Therapie Gegenwart*, 44:97–101.
Fort J. 1964. The problem of barbiturates in the United States of America. *UNDOC Bull Narc*, 1:17–35.
Frankenburg FR. 1994. History of the development of antipsychotic medication. *Psychiatr Clin North Am*, 17:531–40.
Glatt MM. 1962. The abuse of barbiturates in the United Kingdom. *UNODC Bull Narc*, 2:19–38.
Griesinger W. 1861. Die Pathologie und Therapie der psychischen Krankheiten. 2nd ed. Stuttgart: Krabbe.
Grimaux E. 1879. Synthese des dérivés uriques de la série de l'alloxane. *Bull Soc Chim France*, 31:146.
Halford FJ. 1943. A critique of intravenous anesthesia in war surgery. *Anesthesiology*, 4:24–30.
Handley R, Stewart ASR. 1952. Mysoline: a new drug in the treatment of epilepsy. *Lancet*, 262:742.
Hauptmann A. 1912. Luminal bei Epilepsie. *Münch Med Wochenschr*, 59:1907.
Haward FC. 1928. Report of the Medical Officer. The National Society for Epileptics. Thirty-fifth Annual Report. p 24.
Healy D. 2002. The creation of psychopharmacology. Cambridge: Harvard Univ Pr.
Hollister LE. 1983. The pre-benzodiazepine era. *J Psychoactive Drugs*, 15:9–13.
Horatz K, Stürtzbecher F. 1952. Neue Hilfsmittel in der Anaesthesie. *Anaesthesist*, 1:149–50.
Impens E. 1912. Pharmakologisches über Luminal, oder Phenylethil barbiturat-saure, ein neues Hypnoticum. *Dtsch Med Wochenschr*, 38:945–7.
Iváñez V, Díez-Tejedor E. 1998. Fármacos antiepilépticos y anticonvulsivantes: aspectos históricos. In López-Muñoz, F, Alamo C (eds). Historia de la Neuropsicofarmacología. Una nueva aportación a la terapéutica farmacológica de los trastornos del Sistema Nervioso Central. Madrid: Ediciones Eurobook SL. p 347–64.
Jacobsen E. 1986. The early history of psychotherapeutic drugs. *Psychopharmacology*, 89:138–44.
Johns MW. 1977. Self-poisoning with barbiturates in England and Wales during 1959-74. *BMJ*, i:1128–30.
Juliusburger O. 1912. Ueber Luminal einneues Hypnoticum und Sedativum. *Berl Klin Wochenschr*, 49:940–2.
Kassell NF, Hitchon PW, Gerk MK, et al. 1980. Alterations in cerebral blood flow, oxygen metabolism, and electrical activity produced by high-dose thiopental. *Neurosurgery*, 7:598–603.
Kast A. 1888. Sulfonal, ein Neues Schlafmittel. *Berl Klin Wochenschr*, 25:309–14.
Klaesi J. 1922. Über die therapeutische Anwendung der "Dauernarkose" mittels Somnifens bei Schizophrenen. *Zeitsch gesamte Neurol Psychiatrie*, 74:557–92.
Koller WC, Hristova A, Brin M. 2000. Pharmacological treatment of essential tremor. *Neurology*, 54(11 Suppl 4):30–8.
Lehmann HE. 1993. Before they called it psychopharmacology. *Neuropsychopharmacology*, 8:291–303.
Lehmann HE, Ban TA. 1970. Pharmacotherapy of tension and anxiety. Springfield: Charles C Thomas.
Liebreich O. 1869. Das Chloralhydrat ein neues Hypnoticum und Anästheticum, und dessen Anwendung in die Medizin. Eine Arzneimittel-Untersuchung. Berlin: Muller.
Locock C. 1857. Discussion of paper by EH Sieveking. Analysis of 52 cases of epilepsy observed by author. *Lancet*, i:527.
Loewe S. 1912. Klinische Erfahrungen mit Luminal. *Dtsch Med Wochenschr*, 38:947–8.
López-Muñoz F, Alamo C, Cuenca E. 2000. La "Década de Oro" de la Psicofarmacología (1950-1960): Trascendencia histórica de la introducción clínica de los psicofármacos clásicos, Psiquiatria.COM (electronic journal), Sep, 4 (3), URL: http://www.psiquiatria.com/psiquiatria/revista/47/1800/?++interactivo.
López-Muñoz F, Alamo C, Rubio G, et al. 2004. Half a century since the clinical introduction of chlorpromazine and the birth of modern psychopharmacology. *Prog Neuropsychopharmacol Biol Psychiatry*, 28:205–8.
Lundy JS. 1929. A case illustrating the use of sodium iso-amylethyl barbiturate (sodium amytal). Report of the 48th Meeting of the Society of the Clinical Surgery. Apr 29–30.
Lundy JS. 1930. Intravenous anesthesia: particularly hypnotic, anesthesia and toxic effects of certain new derivates of barbituric acid. *Anesth Analg*, 9:210–17.
Marshall LF, Smith RW, Shapiro HM. 1979. The outcome with aggressive treatment in severe head injuries: acute and chronic barbiturate administration in the management of head injury. *J Neurosurg*, 50: 26–30.
McLeod N. 1900. The hormone sleep: a new departure in the treatment of acute mania. *BMJ*, i:134–6.
Merrit HH, Putnam TJ. 1938. Sodium diphenylhydantoinate in treatment of convulsive disorders. *JAMA*, 111:1068–73.
Monnier M. 1936. Die Dauerschlafbehandlung der Schizophrenien mit Narkosenmischung von Cloetta an der Psychiatrischen Klinik Burghölzli – Zürich. *Nervenartz*, 9:14–29.
Müller M. 1927. Die Dauernarkose mit flussigem Dial bei Psychosen, speziell bei manisch-depressivem Irresein. *Zeitsch gesamte Neurol Psychiatrie*, 107:522–43.
Norton A. 1979. Depression. *BMJ*, 2:429–30.
Oleson OV, Dam M. 1967. The metabolic conversion of primidone to phenobarbitone in patients under long-term treatment. *Acta Neurol Scand*, 43:348–56.
Piatt JH, Schiff SJ. 1984. High dose barbiturate therapy in neurosurgery and intensive care. *Neurosurgery*, 15:427–44.
Plant M. 1981. What aetiologies? In Edwards G, Busch C (eds). Drug problems in Britain. A review of ten years. London: Academic Pr. p 245–80.
Pratt TW, Tatum AL, Hathaway HR, et al. 1936. Sodium ethyl (1-methyl butyl) thiobarbiturate: preliminary experimental and clinical study. *Am J Surg*, 31:464–6.
Richards R. 1934. Symptoms of poisoning bu hypnotics of barbituric acid groups. *BMJ*, i:331.
Roberts I. 2000. Barbiturates for acute traumatic brain injury. *Cochrane Database Syst Rev*, 2:CD000033.
Sakel M. 1935. Neue Behandlung der Schizophrenie. Vienna: Perles.
Scott DF. 1992. The discovery of antiepileptic drugs. *J Hist Neurosci*, 1:111–18.
Sharpless SK. 1970. The barbiturates. In Goodman LS, Gilman A (eds). The pharmacological basis of therapeutics. 4th ed. New York: The MacMillan Company. p 98–120.
Shonle HA, Moment A. 1923. Some new hypnotics of the barbituric acid series. *J Am Chem Soc*, 45:243–9.
Shorter E. 1997. A history of psychiatry. From the era of the asylum to the age of Prozac. New York: J Wiley.

Shorvon SD. 2000. Handbook of epilepsy treatment. Oxford: Blackwell Science.

Shorvon SD, Sander JWAS. 1996. Historical introduction. The treatment of epilepsy at the National Hospital; Queen Square, 1857-1939: a mirror of the first phase of the modern history of medical and surgical therapy. In Shorvon SD, Dreifuss F, Fish D, et al (eds). The treatment of epilepsy. Oxford: Blackwell Science. p xvii–xliv.

Slater E. 1975. Psychiatry in the thirties. *Contemp Rev*, 226:70–5.

Sneader W. 1985. Drug discovery: the evolution of modern medicines. Chichester: J Wiley.

Sourkes TL. 1992. Early clinical neurochemistry of CNS-active drugs. Chloral hydrate. *Mol Chem Neurophath*, 17:21–30.

Tabern DL, Volwiler EH. 1935. Sulfur-contained barbiturate hypnotics. *J Am Chem Soc*, 57:1961–3.

Taylor C, Stoelting VK. 1960. Methohexital sodium – a new ultrashort acting barbiturate. *Anesthesiology*, 21:29–34.

Volwiler EH, Tabern DL. 1930. 5,5-substituted barbituric acid. *J Am Chem Soc*, 52:393–407.

Von Baeyer A. 1864. Untersuchungen über die Harnsauregruppe. *Annalen*, 130:129.

Von Husen H. 1904. Über Veronal. *PNW*, 6:57–61.

Von Meduna L. 1937. Die Konvulsionstherapie der Schizophrenie. Halle: Marhold.

Weese H. 1932. Pharmakologie des Prominal. *Dtsch Med Wochenschr*, 58:696.

Weese H, Scharpff W. 1932. Evipan, ein neuartiges Einschlafmittel. *Dtsch Med Wochenschr*, 58:1205–7.

Windholz G, Witherspoon LH. 1993. Sleep as cure for schizophrenia: a historical episode. *Hist Psychiatry*, 4:83–93.

Wolf HG, Hardy JD, Goodell H. 1941. Measurement of the effect of the pain threshold of acetylsalicylic acid, acetanilid, acetophenetidin, aminopyrine, ethyl alcohol, trichlorethylene, a barbiturate, quinine, ergotamine, tartrate and caffeine, and analysis of their relation to the pain experience. *J Clin Invest*, 20:63–80.

Woodward SB. 1994. Observations on the medical treatment of insanity (1846). *Am J Psychiatry*, 151(Suppl 6):220–30.

EXHIBIT 5

Pentobarbital anesthesia in labor

TORBEN SEEAR, M.D.

Gastonia, North Carolina

A routine method of balanced obstetric analgesia and anesthesia which can be administered safely by the labor room nurses and the attending physicians is discussed. Eleven thousand eight hundred and twenty patients received intravenous pentobarbital. More than 2,000 of the author's patients received this type of anesthesia. The result of his last 1,000 consecutive anesthetics is discussed in detail. Maternal mortality and morbidity were zero. Corrected stillbirth and neonatal death rates were zero. Obstetric analgesia-anesthesia with the use of meperidine, propiomazine, and pentobarbital seems to be safe and is well accepted.

IN JANUARY, 1847, Sir James Young Simpson administered the first obstetric anesthesia. Ever since then scientists and physicians have worked to improve drugs and methods to make anesthesia better and safer.

Ideally, all obstetric anesthesia should be administered by an anesthesiologist trained in obstetric analgesia and anesthesia. However, only about 500 physicians enter approved anesthesia training programs every year. Shnider[11] found that 40 per cent of the physicians completing a training program in anesthesiology administered fewer than 50 anesthetic agents for vaginal delivery in 2 years, and most anesthesiologists do not order drugs for relief of pain during the first stage of labor.[7]

It has, therefore, been necessary to develop methods of analgesia and anesthesia which can be administered safely by the labor room nurse and the attending physician.

In 1951 Bertling and Burwell[2] published their results regarding pentobarbital anesthesia used routinely since 1948, and in 1953 Flowers[3] recommended balanced analgesia with the use of meperidine, scopolamine, and pentobarbital.

In our community hospital, pentobarbital was given the first time in December, 1951. Meperidine was given as premedication, and ether was used occasionally together with pentobarbital for the delivery. Later, tranquilizers were added, and the use of pentobarbital as the only anesthetic increased gradually, and within a few years it became the predominantly used anesthetic agent (Table I).

From Gaston Memorial Hospital.

Presented by invitation at the Twenty-ninth Annual Meeting of the South Atlantic Association of Obstetricians and Gynecologists, Hot Springs, Virginia, Feb. 5-8, 1967.

Analgesia

Certainly the results of anesthesias, analgesias, and tranquilizers cannot be separated, as all influence the condition of the mother and the newborn. In fact, I feel that it is the development of the new and efficient tranquilizers which have made the use of pentobarbital safer by increasing the analgesic effect of meperidine and the hypnotic effect of pentobarbital causing a smaller total dose of all drugs and, therefore, less risk of depression of the newborn infant. My material has been collected for a little more than 4 years. Promazine was used the first 5 months, propiomazine (Largon) since then (Table II).

The premedication with meperidine, 50 mg., and propiomazine, 40 mg., intravenously is now my preferred treatment. The patients receiving meperidine, 25 mg., and tranquilizers intramuscularly were patients suspected of being candidates for primary uterine inertia or patients in premature labor.

It is my impression that meperidine is

Table I. Number of patients receiving pentobarbital anesthesia

Year	*Total cases*	*Personal cases*	*Total deliveries*
1951	3	0	875
1952	Records not available		
1953	Records not available		
1954	38	1	1,300
1955	133	5	1,375
1956	288	40	1,489
1957	361	64	1,324
1958	674	41	1,345
1959	914	190	1,460
1960	1,206	220	1,457
1961	1,384	233	1,627
1962	1,375	231	1,536
1963	1,388	242	1,524
1964	1,340	229	1,588
1965	1,421	207	1,615
To 10/31/66	1,295	185	1,534
Total	11,820	1,888	20,049

Table II. Frequency of use and dosage of tranquilizers

No. of patients	*Drug and dosage*
507	meperidine 50 mg. propiomazine 40 mg. intravenously
299	meperidine 50 mg. propiomazine 20 mg. intravenously or intramuscularly
65	meperidine 50 mg. promazine 25 mg. intramuscularly
129	meperidine 25 mg. promazine or propiomazine intramuscularly

more depressing to the newborn than pentobarbital; therefore, only 62 patients received additional 25 or 50 mg. of meperidine for analgesia.

Pentobarbital sodium (Nembutal). This solution contains 50 mg. pentobarbital sodium per milliliter in a stable solution. It is strongly alkaline and can only be injected intravenously or deeply into a large muscle.

Pentobarbital is essentially a hypnotic drug, but it also produces a slight degree of analgesia. Following intravenous injection, pentobarbital rapidly produces cerebral depression of any desired degree. It is rapidly detoxified, chiefly in the liver. It transverses the placental barrier easily, and equilibrium between maternal and fetal circulation is reached within 3 minutes.

It has been said about the short-acting barbiturates, that they are "deadly easy to administer." However, if not more than 250 mg. of pentobarbital is given slowly intravenously, it is virtually impossible to oversedate the patient. Pentobarbital may, therefore, be given by a physician or nurse trained in intravenous injection and used to observe and supervise patients in labor.

Method

The patient is given meperidine 50 mg. and a tranquilizer intravenously when labor is established. As the effect of the premedication begins to wear off, the patient is given pentobarbital intravenously.

It is important to know that the dosage is determined by the clinical response of each patient. Approximately 100 mg. pentobarbital is first given slowly. The effect is observed for a couple of minutes before the remainder of the desired dose is given, bearing in mind that full effect is first obtained in 2 minutes. The dosage varies from 150 to 250 mg. depending upon the patient's reaction. Very often this will be sufficient to carry the patient through delivery with good amnesia with the use of pudendal block or local infiltration for the episiotomy site. However, in cases of slow labor, a second, usually smaller, injection of pentobarbital will be necessary. If it is given shortly before delivery, repair of the episiotomy is possible without a local anesthetic.

All the physicians on the staff now use pentobarbital anesthesia with minor differences in method. Variations are mainly found in the use of tranquilizers and in the timing of the pentobarbital injection. A few physicians give pentobarbital earlier than I do, while others give pentobarbital late in the second stage of labor.

In breech presentation, local infiltration of mepivacaine (Carbocaine) is used for the episiotomy, and pentobarbital is first given when the infant is delivered to the level of the umbilicus. At this time 3 to 5 c.c. of pentobarbital is given rather rapidly, and the in-

fant is delivered by partial breech extraction.

The level of anesthesia is usually satisfactory for common surgical procedures in obstetrics, such as low forceps delivery, forceps rotation, breech delivery, and version and extraction of a second twin.

When pentobarbital was first used in our department, it was often supplemented with ether for the delivery; however, as we gained experience, we found that the babies actually did much better when a larger amount of pentobarbital was given rather than when ether was given. Little by little, ether has, therefore, been virtually eliminated from our service. In my last 1,000 cases, ether anesthesia was used one time only for version and extraction of a second twin. This experience has been nicely confirmed by Phillips.[8]

Contraindications. Contraindications to pentobarbital are conditions with impaired liver function and conditions with depressed or obstructed respiration. We have found, as have others,[9] that pentobarbital can be given safely to patients with toxemia. Naturally, pentobarbital should not be administered to patients who are known to be sensitized to barbiturates.

All patients admitted with bleeding are very carefully screened and usually should not receive pentobarbital because of danger of shock and since the health and security of the mother and baby are possibly already jeopardized.

Severe prematurity is a contraindication because of the premature infant's lessened resistance to all analgesia and anesthesia.

Table III. General statistics regarding deliveries

1,000 patients	1,005 infants
378 primipara	622 multipara
807 spontaneous deliveries	145 low forceps
49 breech deliveries	3 version and extraction
1 cesarean section	785 episiotomies

Table IV. Dosage of pentobarbital given to patients

1,000 patients	305 mg.
378 primipara	338 mg.
622 multipara	284 mg.
488 patients	250 mg.
Maximum	650 mg.
Minimum	100 mg.

Material

I have delivered slightly more than 2,000 patients under pentobarbital anesthesia. The results of the last 1,000 pentobarbital anesthesia administrations given to my private white patients are shown in Tables III and IV.

Effect of pentobarbital on the mother

Maternal safety and results may be determined by evaluation of the following factors:

1. Blood pressure is usually not influenced by pentobarbital when given in moderate doses.

2. Respiration. Patients who are nervous and hyperventilating will often have a short period of apnea following the initial injection. However, respiration is always restored spontaneously in a couple of minutes, probably when the abnormally low CO_2 tension returns to normal.

Laryngeal spasm is a theoretical hazard of intravenous injection of the ultrashort-acting barbiturates; however, I have never seen it following an injection of pentobarbital, and it has, as far as I have been able to ascertain, never taken place in any of our 11,820 patients.

3. Local reaction. Pentobarbital sodium is a very alkaline solution and causes pain, tenderness, and infiltration when given subcutaneously; therefore, caution should be exercised during injection. Occasionally, a very mild, self-limiting, superficial phlebitis is seen in the cubital vein which is usually the preferred site of injection. I have, however, never seen any sloughing or any patient actually being incapacitated because of erroneous perivenous injection.

4. Amnesia is usually good from the moment pentobarbital is given, and I have, therefore, used scopolamine only very occasionally, nearly exclusively, in cases of pri-

mary uterine inertia before meperidine and pentobarbital were given.

5. Hyperactivity. When pentobarbital is given following premedication with meperidine and propiomazine, hyperactivity is fairly rare. The patients will be resting quietly between contractions with some groaning and moderately increased restlessness with the contractions. In 14 cases out of 1,000 it was noted in the chart that the patient was difficult to restrain.

6. Vomiting. All my maternity patients are instructed not to eat from the moment they are in labor. However, it cannot be avoided that some patients are admitted a few hours following a meal. Naturally, no general anesthetic causing anesthesia of this level should be given to a patient who has eaten recently. However, whether or not anesthesia is safe must be decided in each case depending upon the type and amount of food ingested. Pentobarbital, 250 mg., given intravenously, very slowly, will hardly be enough to suppress the coughing reflex if it is more than 2 hours since the patient was given meperidine and propiomazine, and the patient will be able to cough and, therefore, not aspirate.

In spite of close attention to this point, 3 of my patients vomited small to moderate amounts, while one vomited profusely. None had signs of aspiration, and all had an afebrile postpartum course.

This paper was from its beginning aimed at showing what can be accomplished with pentobarbital anesthesia as given by the attending nurse and obstetric staff; however, to get the full picture, it is here necessary to mention that one patient, admitted to our department by another physician, was given 250 mg. of pentobarbital by an anesthesiologist and vomited profusely, aspirated, was asphyxiated, and died from cardiac arrest.

7. Uterine contractions are not much influenced by pentobarbital. The total number of patients where it was felt that labor slowed down following pentobarbital was only 20 or 2 per cent. Conversely, it was felt that in many cases labor was shortened because the patient could not hold back following administration of pentobarbital. The patients are able to bear down well in the second stage as witnessed by the fact that only 145 patients were delivered by forceps while 807 delivered spontaneously (Table III).

8. Postpartum bleeding secondary to uterine relaxation is rare. All my patients are routinely given methylergonovine maleate (Methergine) 0.2 mg. I.V. following delivery. In only 19 patients, 1.9 per cent, was it found necessary to give additional medication. This low incidence also witnesses to the fact that the uterine contractions are not inhibited.

9. Recovery. Pentobarbital is a short-acting, but not ultrashort-acting barbiturate. It is metabolized fairly rapidly, and the patient will usually be awake in one to four hours after injection of our average dose. Naturally, it is necessary to observe them in the labor rooms during this time.

Effect of pentobarbital on the newborn

While it may be fairly easy to evaluate the effect of a drug on the parturients, it is very difficult to objectively evaluate the relation between the drugs given to the mother and the condition of the newborn because the numerous variable factors of pregnancy, labor, and delivery may affect the newborn. The following factors must be evaluated:

1. Stillbirth. In order for a drug to be safe, it must not be the cause of stillbirth. Of 1,005 infants, 9 were stillborn. Six fetuses died before labor and were born macerated. In one case, no fetal heart sound was heard on admission at 30 weeks' gestation following complete abruptio of the placenta. One fetus died during labor from congenital malformation before pentobarbital was given. One fetus, weighing 1 pound, 5 ounces, died during labor after the mother received 250 mg. of pentobarbital (Table V).

2. Neonatal death. Our drugs of choice

Table V. Stillbirth

Macerated fetuses	6
Died before injection of pentobarbital	2
Died following injection of pentobarbital, 1 pound, 5 ounces	1

Table VI. Causes of neonatal death

Anencephalic	1
Hydrocephalic	1
Congenital heart anomalies	1
Extreme immaturity	2
Multiple congenital anomalies of alimentary tract	1
Congenital defects in fat metabolism, died at 3 months old	1

Table VII. Possible connection between resuscitation and obstetric complications

Postmaturity	3
Prematurity	4
FHS irregular before pentobarbital	2
Placental dysfunction	6
Toxemia	4
Cord 3 times tight around neck	3
Prolonged second stage	9

Table VIII. Apgar score of 100 consecutive newborn infants

Apgar score	*Newborn infants*	*Infants resuscitated*
10	0	0
9	41	0
8	35	0
7	17	2
6	6	5
1	1	0

Table IX. Neonatal morbidity

	No.
Congenital heart anomalies	6
Sleepy in nursery	3
Hyaline membrane disease, 33 and 36 weeks	2
Episodes of cyanosis in nursery	3
Irritable, ruddy complexion	1
Grunty respiration, 38 weeks	1
Scattered atelectases, 37 weeks	1
Spastic paraplegia	1
Total	18

must not be the cause of neonatal death. Of 1,005 infants, 7 died neonatally, all from causes beyond our control (Table VI).

3. Resuscitation. The ease and speed with which the infants establish extrauterine respiration, circulation, and oxygenation is a good measure of their condition. All newborn infants are immediately aspirated with bulb syringe. If their color is not satisfactory within one or 2 minutes, in my or the attending nurse's opinion, an oxygen mask is held in front of their face. If they do not immediately respond to this, they will be resuscitated using intermittent positive pressure. Seventy-four babies received oxygen by mask for varying degrees of sluggishness and cyanosis, while 14 infants were resuscitated using intermittent positive pressure. This means that 8.8 per cent of the infants received oxygen in the delivery room; however, obstetric complications were found in 31 of these labor cases (Table VII).

Of the 88 infants resuscitated, 87 showed no evidence of permanent damage which could be related to labor, delivery, or anesthesia. However, one infant lived with evidence of permanent brain damage.

4. The Apgar score[1] has been generally accepted as an objective way of evaluating a newborn baby's condition. In a partially separate study, 100 consecutive babies were evaluated (Table VIII).

Since only a very few newborn babies' hands are pink at one minute, I have not given any infant a 10 score. The only infant with a score lower than 6 was a 22 week, 1 pound newborn infant who had only a faint heartbeat and died in 55 minutes.

5. Neonatal morbidity is an important indicator in evaluating trauma of pregnancy, delivery, analgesics, and anesthesia. Eighteen infants had neonatal complications which they survived. Six had congenital malformations of the heart. Eleven had minor complications, but all recovered completely and were discharged with the mother (Table IX).

One infant did poorly from birth, needed resuscitation in the delivery room, and remained limp with episodes of cyanosis. It was transferred to a university pediatric department and was discharged with a diagnosis of spastic paraplegia, cause undetermined. This patient had bleeding early in pregnancy and at two occasions took a large amount of an undetermined drug. In labor she was

given no analgesia and a total of 500 mg. of pentobarbital divided into three doses and spontaneous delivery took place following a slightly prolonged second stage.

REFERENCES

1. Apgar, Virginia, et al.: J. A. M. A. **168:** 1985, 1958.
2. Bertling, M. H., and Burwell, J. C., Jr.: North Carolina M. J. **12:** 429, 1951.
3. Flowers, C. E., Jr.: Am. J. Obst. & Gynec. **78:** 730, 1959.
4. Flowers, C. E., Jr.: North Carolina M. J. **14:** 140, 1953.
5. King, J. E., et al.: Am. J. Obst. & Gynec. **86:** 869, 1963.
6. Lock, Frank R., and Greiss, Frank C., Jr.: Am. J. Obst. & Gynec. **70:** 861, 1955.
7. Moore, D. C.: Anesthetic Techniques for Obstetrical Anesthesia and Analgesia, Springfield, Illinois, 1964, Charles C Thomas, Publisher.
8. Phillips, K. G.: Am. J. Obst. & Gynec. **77:** 113, 1959.
9. Ross, J. W.: Am. J. Obst. & Gynec. **31:** 120, 1936.
10. Rucker, E.: J. M. A. Alabama **23:** 59, 1953.
11. Shnider, S. M.: Am. J. Obst. & Gynec. **93:** 243, 1965.

114 West Third Avenue
Gastonia, North Carolina

Discussion

Dr. Hugh A. McAllister, Lumberton, North Carolina. It is somewhat encouraging to know that the search for a safe, sound, and satisfactory anesthesia for the parturient female continues. In general, the smaller the hospital, the less chance there is of satisfactory anesthesia in delivery rooms.

Dr. Seear shows in Table II the number of patients receiving meperidine and various tranquilizers and in various doses but does not tell us his criteria for when to give the medication, the necessity for repeating it, and how he decides on the need and the dose for the second administration. The same is true of his administration of pentobarbital. How early in labor should it be given? Should the condition of the cervix and the vigor of labor be deciding factors?

Since our experience has been totally with sodium pentothal which is an ultrashort-acting barbiturate and since it is the sulfur analogue of pentobarbital sodium, I should like to briefly show our experience with that drug, and I feel that our experience with sodium pentothal and his with pentobarbital sodium should not differ greatly.

In 1955, Dr. Charles E. Flowers, Jr., and I reported on the use of sodium pentothal in 7,793 deliveries between the years of 1948 and 1955 showing that for the last 5 years of that period 82 per cent of the deliveries at Southeastern General Hospital were done under sodium pentothal. Since then, an additional 23,723 deliveries have been done with approximately 95 per cent being done under sodium pentothal. It is my feeling that 35,311 deliveries with approximately 90 per cent being done under thiopental signifies the acceptance of the obstetric staff and the patients in our community.

This critical analysis of our work should also fully apply to Dr. Seear's work with pentobarbital.

Pentothal sodium is a thiobarbiturate which is primarily a parasympathomimetic hypnotic but when used in conjunction with nitrous oxide, oxygen, cyclopropane, ether, and conduction anesthesia, it becomes a useful agent in the practice of anesthesia. Being a parasympathomimetic, laryngospasm could be easily produced by perineal stretching at the time of delivery. Being primarily a hypnotic, it would seem that profound cerebral depression would be necessary to alleviate the pain of a parturition. Being a potent hypnotic, fetal depression could be an undesirable complication. Apparently, however, thiopental is a useful agent in obstetrics.

When pentothal sodium is used intermittently and intelligently in patients who have not ingested a recent meal and have had parasympathetic depression by scopolamine, atropine, or the like, laryngospasm is not a significant complication. There were no maternal deaths due to anesthesia and no serious laryngospasms in this series. Conservative doses of 5 per cent pentothal give sufficient cerebral depression to alleviate pain but apparently not sufficient to depress the more primitive medullary centers. Solutions of 2.5 per cent are less satisfactory and are not recommended for thiopental hypnosis for delivery.

The lack of fetal depression is more difficult to explain. The rapid passage of thiobarbiturates across the placenta is a fact. The rapid disappearance of thiopental from the bloodstream and its concentration in body fat is likewise well established.

There is no real correlation between infant blood level of pentothal and the reaction time of the infant. Intermittent injection of pentothal, the rapid dispersal of pentothal in the tissue spaces and fat and the unpredictable placental circulation at time of delivery can account for these variations. It is factual, though not easily understandable, that despite almost equal blood concentrations of pentothal in the mother and the fetus, a vigorous crying infant can be delivered of a mother who is asleep. To explain this one must think hypothetically. Thiobarbiturates rapidly leave the bloodstream and enter tissue spaces.

If only a small amount of pentothal is used, time is not a factor in fetal depression, since the pentothal will leave both maternal and infant circulation rapidly. However, if large intermittent doses are employed over prolonged periods of time, tissue saturation may occur and pentothal can then be responsible for depression in the infant. In this series small doses were used for short times.

A second factor may be the presence of drug tolerance and adaptability of a newborn infant. Possibly, the primitive urge to establish extrauterine respiration is profound. The fact that only 5 per cent of the infants required resuscitation may be a sampling error. However, this low figure may also be indicative of the safety of the technic. Moreover, in the entire series of the first 7,793 deliveries, there were no infant deaths that were attributable to anesthesia per se. The last 23,723 deliveries have not been completely analyzed. It is evident that the majority of the patients received less than 300 mg. of pentothal and were anesthetized less than 5 minutes prior to delivery.

It seems to me that prerequisites for any type anesthesia, in general, and pentothal or pentobarbital, in particular, should be:

1. The patient should not have ingested solid food less than 2 hours before onset of labor.

2. Oxygen should be administered with pentothal sodium (or pentobarbital) since the arterial oxygen saturation may fall during its administration.

3. Persons who are responsible for pentothal (or pentobarbital) anesthesia should have both the materials necessary and the technical knowledge to treat laryngospasm.

4. The administration of pentothal sodium should be delayed until the total amount of pentothal which is given prior to delivery should not exceed 0.5 Gm.

Our method of administration of pentothal is as follows: 1 Gm. of pentothal is mixed with 20 c.c. of distilled water to make a 5 per cent solution. The resulting solution contains 50 mg. per cubic millimeter.

The initial dose should not exceed 200 mg. in the first 30 to 60 seconds. Anesthesia is maintained with intermittent doses of 50 mg. No attempt is made to predetermine the total dose required. There is wide variation in the individual tolerance to thiobarbiturates. All drugs should be given by vein and not intramuscularly.

Pentothal anesthesia in obstetrics should be used in combination with a pudendal block, paracervical block, or at least local perineal infiltration for maximum efficiency. Although in our series many operative procedures were attempted it is not our feeling that forceps rotation, delivery of a complicated breech, version and extraction of a second twin, or other real obstetric problems should be attempted under pentothal alone because adequate relaxation is not possible.

That barbiturates do have a place in obstetric delivery is in my mind a certainty but just what place remains somewhat of a question. Certainly pentothal is safer, far more esthetic than most inhalation types of anesthesia with obstructed breathing, slow induction, and postdelivery nausea, and we will certainly welcome continued observation of this useful drug to more completely establish its value in our chosen field.

DR. JOHN C. BURWELL, Greensboro, North Carolina. Dr. Seear has presented further evidence of the efficacy and safety of intravenous barbiturates for labor and delivery. He has used other synergistic drugs to obtain analgesia as well as anesthesia. The results, compiled over a period of years, bear out the findings of other investigators and substantiate contentions regarding length of labor, bleeding, fetal depression, morbidity, and mortality.

In our own experience, we have found that intravenous barbiturates provide an adequate margin of safety with a satisfactory degree of anesthesia. We have not used the intravenous administration for analgesia. We are in complete accord with the author's statement that "Ideally

all obstetric anesthesia should be administered by an anesthesiologist trained in obstetric anesthesia." At the same time, the intravenous barbiturates do provide maternal pain relief where more sophisticated coverage is unavailable, and the author's careful and comprehensive studies are a definite contribution to our knowledge of the subject.

DR. SEEAR (Closing). To Dr. McAllister's question, I can say that I do not adhere strictly to a routine but give meperidine and propiomazine when labor is well established, as proved by progressive effacement and dilatation of the cervix and regular, painful contractions, usually when the cervix is from 2 to 4 cm. dilated.

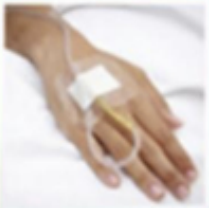
Pentobarbital is given when the patient again becomes complaining, usually when the cervix is from 5 to 8 cm. dilated, and additional pentobarbital is given if the patient becomes alert before she is ready for delivery.

EXHIBIT 6

PHARMACOLOGY AND THE NURSING PROCESS

Lilley
Rainforth Collins
Snyder

Ninth Edition



Evolve® | Student Resources on Evolve
Access Code Inside

ELSEVIER

PHARMACOLOGY AND THE NURSING PROCESS

Ninth Edition

Linda Lane Lilley, RN, PhD
University Professor and Associate Professor Emeritus (Retired)
School of Nursing
Old Dominion University
Norfolk, Virginia

Shelly Rainforth Collins, PharmD
President
Drug Information Consultants
Chesapeake, Virginia

Julie S. Snyder, MSN, RN-BC
Lecturer
School of Nursing, Regent University
Virginia Beach, Virginia

ELSEVIER

PHARMACOLOGY AND THE NURSING PROCESS, NINTH EDITION ISBN: 978-0-323-52949-5

Notice

Practitioners and researchers must always rely on their own experience and knowledge in evaluating and using any information, methods, compounds or experiments described herein. Because of rapid advances in the medical sciences, in particular, independent verification of diagnoses and drug dosages should be made. To the fullest extent of the law, no responsibility is assumed by Elsevier, authors, editors or contributors for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions, or ideas contained in the material herein.

Previous editions copyrighted 2017, 2014, 2011, 2007, 2005, 2001, 1999, and 1996.

International Standard Book Number: 978-0-323-52949-5

Executive Content Strategist: Sonya Seigafuse
Senior Content Development Specialist: Laura Goodrich
Publishing Services Manager: Julie Eddy
Book Production Specialist: Clay S. Broeker
Design Direction: Amy Buxton

Printed in Canada

Last digit is the print number: 9 8 7 6 5 4 3 2 1

ELSEVIER

3251 Riverport Lane
St. Louis, Missouri 63043

TABLE 12.5 Sedative-Hypnotic Barbiturates

Generic Name	Trade Name
Ultrashort Acting	
methohexital	Brevital
thiopental	Pentothal
Short Acting	
pentobarbital	Nembutal
secobarbital	Seconal
Intermediate Acting	
butabarbital	Butisol
Long Acting	
phenobarbital	Generic
mephobarbital	Mebaral

cerebral cortex. Their ability to inhibit nerve impulse transmission is due in part to their ability to potentiate the action of the inhibitory neurotransmitter GABA, which is found in high concentrations in the CNS. Barbiturates also raise the seizure threshold and can be used to treat seizures (see Chapter 14).

Indications

All barbiturates have the same sedative-hypnotic effects but differ in their potency, time to onset of action, and duration of action. It is important to note that the use of barbiturates is no longer recommended for sleep induction. The various categories of barbiturates can be used for the following therapeutic purposes: (1) ultrashort acting: anesthesia for short surgical procedures, anesthesia induction, control of convulsions, and reduction of intracranial pressure in neurosurgical patients; (2) short acting: sedation and control of convulsive conditions; (3) intermediate acting: sedation and control of convulsive conditions; and (4) long acting: epileptic seizure prophylaxis.

Contraindications

Contraindications to barbiturate use include known drug allergy, pregnancy, significant respiratory difficulties, and severe kidney or liver disease. These drugs must be used with caution in older adults due to their sedative properties and increased fall risk.

Adverse Effects

Adverse effects of barbiturates relate to the CNS and include drowsiness, lethargy, dizziness, hangover, and paradoxical restlessness or excitement. Their long-term effects on normal sleep architecture can be detrimental. Barbiturates deprive people of REM sleep, which can result in agitation. When any barbiturate is stopped, a rebound phenomenon may occur. During this rebound, the proportion of REM sleep is increased and nightmares often ensue. Common adverse effects of barbiturates are listed in Table 12.6. As is the case with most sedative drugs, barbiturates are associated with an increased incidence of falls when used in older adults. If they are recommended for older adults at all, the usual dose is reduced by half whenever possible.

TABLE 12.6 Barbiturates: Adverse Effects

Body System	Adverse Effects
Cardiovascular	Vasodilation and hypotension, especially if given too rapidly
Gastrointestinal	Nausea, vomiting, diarrhea, constipation
Hematologic	Agranulocytosis, thrombocytopenia
Nervous	Drowsiness, lethargy, vertigo
Respiratory	Respiratory depression, cough
Other	Hypersensitivity reactions: urticaria, angioedema, rash, fever, Stevens-Johnson syndrome

Toxicity and Management of Overdose

Treatment of an overdose is mainly symptomatic and supportive. The mainstays of therapy are maintenance of an adequate airway, assisted ventilation, and oxygen administration if needed, along with fluid and pressor support as indicated. Activated charcoal may be given; however, recent clinical data do not support its use because no improvement in clinical outcome has been shown. Phenobarbital and mephobarbital are relatively acidic and can be eliminated more quickly by the kidneys when the urine is alkalized (pH is raised). This keeps the drug in the urine and prevents it from being resorbed back into the circulation. Alkalization, along with forced diuresis using diuretics (e.g., furosemide [see Chapter 28]), can hasten elimination of the barbiturate.

Interactions

Barbiturates as a class are notorious enzyme inducers. They stimulate the action of enzymes in the liver that are responsible for the metabolism or breakdown of many drugs. By stimulating the action of these enzymes, they cause many drugs to be metabolized more quickly, which usually shortens their duration of action. Barbiturates increase the activity of hepatic microsomal or cytochrome P-450 enzymes (see Chapter 2). This process is called *enzyme induction*. Induction of this enzyme system results in increased drug metabolism and breakdown. However, if two drugs are competing for the same enzyme system, the result can be inhibited drug metabolism and possibly increased toxicity for the wide variety of drugs that are metabolized by these enzymes. Other drugs that are enzyme inducers are rifampin and phenytoin.

Additive CNS depression occurs with the coadministration of barbiturates with alcohol, antihistamines, benzodiazepines, opioids, and tranquilizers. Drugs most likely to have marked interactions with the barbiturates include monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants (see Chapter 16), anticoagulants (see Chapter 26), glucocorticoids (see Chapter 30), and oral contraceptives (see Chapter 34) with barbiturates. Coadministration of MAOIs and barbiturates can result in prolonged barbiturate effects. Coadministration of anticoagulants with barbiturates can result in decreased anticoagulation response and possible clot formation. Coadministration of barbiturates with oral contraceptives can result in accelerated metabolism of the contraceptive drug and possible unintended pregnancy. Women taking both types of medication concurrently need to

TABLE 12.7 Barbiturates: Controlled Substance Schedule

Schedule	Barbiturates
C-II	pentobarbital, secobarbital
C-III	butabarbital, thiopental
C-IV	mephobarbital, methohexital, phenobarbital

be advised to consider an additional method of contraception as a backup.

Dosages

Barbiturates can act as either sedatives or hypnotics, depending on the dosage. For information on selected barbiturates and their recommended sedative and hypnotic dosages, see the following table.

Dosages

Selected Barbiturates

Drug	Onset and Duration	Usual Dosage Adult Range	Indications/ Uses
pentobarbital (Nembutal)	Short acting	IM: 150–200 mg IV: 100 mg	Preoperative sedative
phenobarbital	Long acting	PO: 30–120 mg/day divided IM/IV: 100–200 mg 60–90 min before surgery	Sedative Preoperative sedative

DRUG PROFILES

Like benzodiazepines, barbiturates can also have varied uses, including preoperative sedation, anesthesia adjunct, and anticonvulsant therapy. All barbiturates are controlled substances, but not all are on the same schedule, as illustrated in Table 12.7. Dosage information appears in the dosages table for barbiturates.

pentobarbital

Pentobarbital (Nembutal) is a short-acting barbiturate. Formerly prescribed as a sedative-hypnotic for insomnia, pentobarbital is now principally used preoperatively to relieve anxiety and provide sedation. In addition, it is used occasionally to control status epilepticus. Pentobarbital may also be used to treat withdrawal symptoms in patients who are physically dependent on barbiturates or nonbarbiturate hypnotics. It is available in oral, injectable, and rectal dosage forms.

Pharmacokinetics: Pentobarbital

Route	Onset of Action	Peak plasma Concentration	Elimination Half-Life	Duration of Action
PO	30–60 min	1–2 hr	20–45 min	3–4 hr

phenobarbital

Phenobarbital is considered the prototypical barbiturate and is classified as a long-acting drug. Phenobarbital is used for the prevention of generalized tonic-clonic seizures and fever-induced convulsions. In addition, it has been useful in the treatment of hyperbilirubinemia in neonates. Currently it is only rarely used as a sedative and is no longer recommended to be used as a hypnotic drug. It is available in oral and injectable forms.

Pharmacokinetics: Phenobarbital

Route	Onset of Action	Peak Plasma Concentration	Elimination Half-Life	Duration of Action
IV	5 min	30 min	50–120 hr	6–12 hr
PO	30 min	1–6 hr	50–120 hr	6–12 hr

OVER-THE-COUNTER HYPNOTICS

Nonprescription sleeping aids often contain antihistamines (see Chapter 36). These drugs have a CNS depressant effect. The most common antihistamines contained in over-the-counter sleeping aids are doxylamine (Unisom) and diphenhydramine (Sominex). Analgesics (e.g., acetaminophen [see Chapter 10]) are sometimes added to offer some pain relief if pain is a component of the sleep disturbance (e.g., acetaminophen/diphenhydramine [Extra Strength Tylenol PM]). As with other CNS depressants, concurrent use of alcohol can cause additive CNS depression.

MUSCLE RELAXANTS

A variety of conditions such as trauma, inflammation, anxiety, and pain can be associated with acute muscle spasms. The muscle relaxants are a group of compounds that act predominantly within the CNS to relieve pain associated with skeletal muscle spasms. Most muscle relaxants are known as *centrally acting* skeletal muscle relaxants because their site of action is the CNS. Centrally acting skeletal muscle relaxants are similar in structure and action to other CNS depressants such as diazepam. It is believed that the muscle relaxant effects are related to this CNS depressant activity. Only one of these compounds, dantrolene, acts directly on skeletal muscle. It belongs to a group of relaxants known as direct-acting skeletal muscle relaxants. It closely resembles GABA.

Mechanism of Action and Drug Effects

The majority of the muscle relaxants work within the CNS. Their beneficial effects are believed to come from their sedative effects rather than from direct muscle relaxation. Dantrolene acts directly on the excitation-contraction coupling of muscle fibers and not at the level of the CNS. It directly affects skeletal muscles by decreasing the response of the muscle to stimuli. It appears to exert its action by decreasing the amount of calcium released from storage sites in the sarcoplasmic reticula of muscle fibers. All other muscle relaxants have no direct effects on muscles, nerve conduction, or muscle-nerve junctions and have a depressant effect on the CNS. Their effects are the result of CNS depression in the brain primarily at the level of the brainstem, thalamus, and basal ganglia and also at the spinal cord. The effects of muscle relaxants are relaxation of striated muscles,

EXHIBIT 7

Lippincott's
Illustrated
Reviews

Series Editors:
Richard A. Harvey
Pamela C. Champe

Pharmacology

4th edition

Collaborating Editors:
Richard Finkel
Luigi X. Cubeddu
Michelle A. Clark

Wolters Kluwer Health | Lippincott Williams & Wilkins

thePoint

Acquisitions Editor: Donna Balado
Managing Editor: Kelly Horvath
Marketing Manager: Jennifer Kuklinski
Production Editor: Kevin Johnson
Designer: Holly McLaughlin

351 West Camden Street
Baltimore, MD 21201

530 Walnut Street
Philadelphia, PA 19106

Printed in China

First edition, 1992
Second edition, 1997
Millennium edition, 2000
Third edition, 2006

To purchase additional copies of this book, call our customer service department at (800) 638-3030 or fax orders to (301) 223-2320. International customers should call (301) 223-2300.

To send comments to the authors, e-mail: **richardaharvey@gmail.com**

Visit Lippincott Williams & Wilkins on the Internet: http://www.LWW.com. Lippincott Williams & Wilkins customer service representatives are available from 8:30 am to 6:00 pm, EST.

Library of Congress Cataloging-in-Publication Data

Finkel, Richard, PharmD.
Pharmacology / Richard Finkel, Michelle A. Clark, Luigi X. Cubeddu ; editors, Richard A. Harvey, Pamela C. Champe. -- 4th ed.
p. ; cm. -- (Lippincott's illustrated reviews)
Includes index.
ISBN-13: 978-0-7817-7155-9
ISBN-10: 0-7817-7155-2
1. Pharmacology--Outlines, syllabi, etc. 2. Pharmacology--Examinations, questions, etc. I. Clark, Michelle. II. Cubeddu, Luigi X. III. Title. IV. Series.
[DNLM: 1. Pharmacology--Examination Questions. 2. Pharmacology--Outlines. QV 18.2 F499p 2009]
RM301.14.F56 2009
615'.1076--dc22

2008011182

V. BARBITURATES

The barbiturates were formerly the mainstay of treatment to sedate the patient or to induce and maintain sleep. Today, they have been largely replaced by the benzodiazepines, primarily because barbiturates induce tolerance, drug-metabolizing enzymes, physical dependence, and are associated with very severe withdrawal symptoms. Foremost is their ability to cause coma in toxic doses. Certain barbiturates, such as the very short-acting *thiopental*, are still used to induce anesthesia (see p. 135).

A. Mechanism of action

The sedative-hypnotic action of the barbiturates is due to their interaction with $GABA_A$ receptors, which enhances GABAergic transmission. The binding site is distinct from that of the benzodiazepines. Barbiturates potentiate GABA action on chloride entry into the neuron by prolonging the duration of the chloride channel openings. In addition, barbiturates can block excitatory glutamate receptors. Anesthetic concentrations of *pentobarbital* also block high-frequency sodium channels. All of these molecular actions lead to decreased neuronal activity.

B. Actions

Barbiturates are classified according to their duration of action (Figure 9.7). For example, *thiopental* [thye-oh-PEN-tal], which acts within seconds and has a duration of action of about 30 minutes, is used in the intravenous induction of anesthesia. By contrast, *phenobarbital* [fee-noe-BAR-bi-tal], which has a duration of action greater than a day, is useful in the treatment of seizures (see p. 178). *Pentobarbital* [pen-toe-BAR-bi-tal], *secobarbital* [see-koe-BAR-bi-tal], and *amobarbital* [am-oh-BAR-bi-tal] are short-acting barbiturates, which are effective as sedative and hypnotic (but not antianxiety) agents.

1. **Depression of CNS:** At low doses, the barbiturates produce sedation (calming effect, reducing excitement). At higher doses, the drugs cause hypnosis, followed by anesthesia (loss of feeling or sensation), and finally, coma and death. Thus, any degree of depression of the CNS is possible, depending on the dose. Barbiturates do not raise the pain threshold and have no analgesic properties. They may even exacerbate pain. Chronic use leads to tolerance.

2. **Respiratory depression:** Barbiturates suppress the hypoxic and chemoreceptor response to CO_2, and overdosage is followed by respiratory depression and death.

3. **Enzyme induction:** Barbiturates induce P450 microsomal enzymes in the liver. Therefore, chronic barbiturate administration diminishes the action of many drugs that are dependent on P450 metabolism to reduce their concentration.

C. Therapeutic uses

1. **Anesthesia:** Selection of a barbiturate is strongly influenced by the desired duration of action. The ultrashort-acting barbiturates, such as *thiopental*, are used intravenously to induce anesthesia.

2. **Anticonvulsant:** *Phenobarbital* is used in long-term management of tonic-clonic seizures, status epilepticus, and eclampsia. *Phenobarbital* has been regarded as the drug of choice for treatment of young chil-

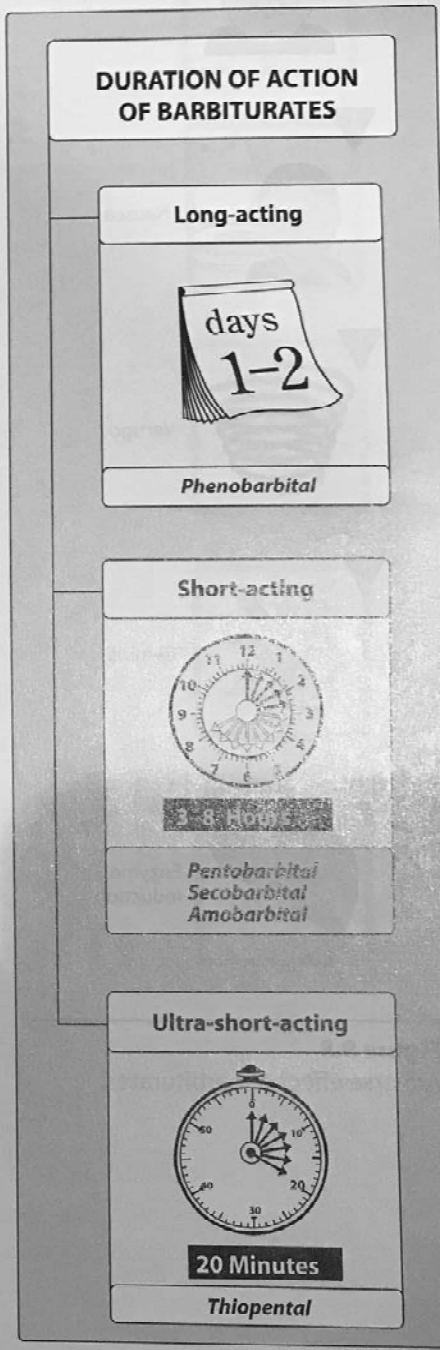
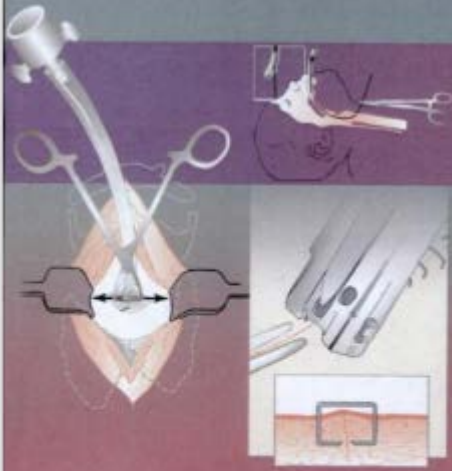


Figure 9.7
Barbiturates classified according to their durations of action.

EXHIBIT 8

Textbook of PEDIATRIC EMERGENCY PROCEDURES

SECOND EDITION



EDITORS

Christopher King
Fred M. Henretig

ASSOCIATE EDITORS

Brent R. King
John M. Loiselle
Richard M. Ruddy
James F. Wiley, II

Wolters Kluwer Health | Lippincott Williams & Wilkins

Acquisitions Editor: Frances DeStefano
Managing Editor: Nicole Dernoski
Project Manager: Nicole Walz
Manufacturing Coordinator: Kathleen Brown
Marketing Manager: Angela Panetta
Creative Director: Doug Smock
Cover Designer: Larry Didona
Production Services: Aptara, Inc.

2nd Edition

Printed in the United States

Library of Congress Cataloging-in-Publication Data

Textbook of pediatric emergency procedures/editors, Christopher King, Fred M. Henretig; associate editors, Brent R. King . . . [et al.]; illustrator, Christine D. Young.—2nd ed.
p. ; cm.
Includes bibliographical references and index.
ISBN-13: 978-0-7817-5386-9
ISBN-10: 0-7817-5386-4
1. Pediatric emergencies. 2. Pediatric intensive care. I. King, Christopher, 1959- II. Henretig, Fred M.
[DNLM: 1. Emergencies. 2. Child. 3. Emergency Medicine—methods. 4. Infant.
WS 205 P371 2008]
RJ370.P456 2008
618.92'0025—dc22

2007022934

10 9 8 7 6 5 4 3 2 1

is most effective when administered to a child with an empty stomach. Absorption may be erratic in those who have recently eaten, leading to an unpredictable onset of action and depth of sedation. The usual dose is 0.2 to 0.6 mg/kg, and the maximum clinical effect may not occur for 25 to 40 minutes.

The major complication of benzodiazepines is respiratory depression, which is almost exclusively associated with intravenous administration although is occasionally reported with intramuscular injections. Complications are minimal when benzodiazepines are used as a single agent or when they are administered by the oral or nasal route. However, because benzodiazepines act synergistically with narcotics and barbiturates, their effects—and potential complications—are increased when they are used in conjunction with these other agents. In addition, some children who receive benzodiazepines experience a so-called "paradoxical" reaction. Rather than being sedated, these patients become more anxious and agitated after administration of the medication. In such cases, it appears that the child predominately experiences the disinhibitory effect of the drug instead of the sedative effect. Although paradoxical reactions can be reversed with flumazenil, they may also respond favorably to administration of additional benzodiazepine.

Flumazenil is a benzodiazepine antagonist that blocks the activity of benzodiazepines at CNS receptor sites (35). Its use in the pediatric population has not been widely studied. It may be appropriate in iatrogenic overdose or when adverse side effects are experienced but is not recommended for routine use to reduce the duration of benzodiazepine-induced sedation. The pediatric dose of flumazenil is 0.02 mg/kg, given by slow intravenous infusion, up to a maximum of 1 mg. The onset of action is within 1 to 3 minutes. Patients must be monitored closely for resedation because the effects of flumazenil subside before the sedative effects of the benzodiazepine. Additionally, flumazenil itself has some potential untoward effects. Most are minor and include crying, agitation, headache, and dizziness. However, it has rarely been associated with seizures.

Barbiturates

Barbiturates are sedative-hypnotics that act as general depressants of the central and peripheral nervous systems and of skeletal, smooth, and cardiac muscles. Their clinical effects are dose dependent and vary widely from mild sedation to coma. Barbiturates can be divided into four groups: ultrashort-acting (thiopental and methohexital), short-acting (pentobarbital), intermediate (butabarbital), and long-acting (phenobarbital). Generally, the ultrashort-acting and short-acting barbiturates are utilized for procedural sedation. When used alone at the proper sedative dose, adverse side effects are rare. Higher doses (e.g., a preintubation dose of methohexital) can, however, cause apnea, transient hypotension, and bradycardia. Barbiturates have no analgesic qualities when used at sedative doses; analgesia is only provided when high anesthetic doses are administered. Thus, when the patient is anticipated to experience pain, an additional analgesic (parenteral or local) must be used.

Methohexital Methohexital is an ultrashort-acting barbiturate that can be given rectally for brief, painless procedures or procedures with which local anesthetic will be used. The onset of action is approximately 8 minutes. When used as a sedative for painless procedures (e.g., CT scan, MRI), it is 95% effective (36). The methohexital dose is 25 mg/kg per rectum, up to a maximum dose of 1 g. Adverse events include hypoventilation and oxygen desaturation, hiccups, cough, and hypersalivation. Although methohexital can also be given by intravenous injection, there are few data regarding this route of administration for pediatric procedural sedation. Furthermore, safer alternative agents are available.

Pentobarbital Pentobarbital is a short-acting barbiturate that is useful for longer procedures or as a preoperative sedative. It can be used in conjunction with an analgesic for painful procedures and may be given parenterally, orally, or rectally. When administered as an intravenous injection, onset of action for pentobarbital occurs in approximately 6 minutes, and the duration of effect is approximately 60 minutes. Oral administration and rectal administration are associated with a delayed onset of sedation (up to 45 minutes). Successful sedation occurs in approximately 99% of patients, but the best sedation results are seen in children younger than 8 years of age (33,37). The oral, rectal, or intramuscular dose of pentobarbital is 2 to 6 mg/kg, up to a maximum dose of 150 mg. The intravenous dose of pentobarbital is 1 to 3 mg/kg. Adverse events associated with pentobarbital administration include respiratory depression, emergence reactions, and paradoxical hyperactivity.

Chloral Hydrate

Chloral hydrate is a sedative-hypnotic CNS depressant used in children as a sedative for procedures which are painless but require cooperation, such as a CT scan, MRI, or electroencephalogram (EEG). It can also be used in conjunction with a local anesthetic for mildly painful procedures such as minor dental work or wound repair (31,38). The drug is readily absorbed through the gastrointestinal tract and may be administered orally or rectally. The dose is 25 to 100 mg/kg, up to a maximum of 1 g in infants and 2 g in children. Peak therapeutic levels occur in approximately 30 to 60 minutes. Chloral hydrate is metabolized in the liver to its active metabolite, trichloroethanol. The elimination half-life of this metabolite is 8 to 12 hours.

When chloral hydrate is administered in low doses (e.g., 25 mg/kg) for light sedation, monitoring beyond the initial period of sedation need only consist of periodic assessment of vital signs. Patients given higher doses of the drug (50 to 100 mg/kg) should be monitored with continuous pulse oximetry. Adverse side effects include excessive somnolence and paradoxical excitation. Major disadvantages of chloral hydrate use include lack of a reversal agent, unpredictable onset and degree of sedation, and a long half-life that requires a protracted period of monitoring.

EXHIBIT 9

TIETZ *Textbook of*
Clinical Chemistry AND Molecular Diagnostics

CARL A. BURTIS, Ph.D.
Senior Technical Specialist
Health Services Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee;
Clinical Professor of Pathology
University of Utah School of Medicine
Salt Lake City, Utah

EDWARD R. ASHWOOD, M.D.
Professor of Pathology
University of Utah School of Medicine,
Chief Medical Officer/Laboratory Director
ARUP Laboratories
Salt Lake City, Utah

DAVID E. BRUNS, M.D.
Professor of Pathology
University of Virginia Medical School,
Director of Clinical Chemistry and Associate Director of Molecular Diagnostics
University of Virginia Health System
Charlottesville, Virginia;
Editor, *Clinical Chemistry*
Washington, D.C.

FOURTH EDITION

with **944** *illustrations and* **12** *color plates*

ELSEVIER
SAUNDERS

ELSEVIER
SAUNDERS

11830 Westline Industrial Drive
St. Louis, Missouri 63146

TIETZ TEXTBOOK OF CLINICAL CHEMISTRY AND MOLECULAR DIAGNOSTICS

Notice

Knowledge and best practice in this field are constantly changing. As new research and experience broaden our knowledge, changes in practice, treatment and drug therapy may become necessary or appropriate. Readers are advised to check the most current information provided (i) on procedures featured or (ii) by the manufacturer of each product to be administered, to verify the recommended dose or formula, the method and duration of administration, and contraindications. It is the responsibility of the practitioner, relying on their own experience and knowledge of the patient, to make diagnoses, to determine dosages and the best treatment for each individual patient, and to take all appropriate safety precautions. To the fullest extent of the law, neither the Publisher nor the Editors assumes any liability for any injury and/or damage to persons or property arising out of or related to any use of the material contained in this book.

The Publisher

ISBN-13: 978-0-7216-0189-2
ISBN-10: 0-7216-0189-8

Publishing Director: Andrew Allen
Managing Editor: Mindy Hutchinson
Developmental Editor: Ellen Wurm
Publishing Services Manager: Pat Joiner
Senior Project Manager: Rachel E. Dowell
Senior Designer: Teresa McBryan

Printed in the United States of America

Last digit is the print number: 9 8 7 6 5 4 3 2

is not formed from α-hydroxyamines. However, the requirement for amphetamine ≥200 ng/mL may not be satisfied in some cases of known methamphetamine ingestion, especially during the initial 12 hours postdose period, leading to false-negative results.[457,490] To increase detection rate for amphetamine and methamphetamine, SAMHSA has proposed[432] a reduction of the screening and confirmation cutoff from 1000 ng/mL and 500 ng/mL to 500 ng/mL and 250 ng/mL, respectively. Methamphetamine would require the presence of at least 100 ng/mL amphetamine metabolite for a positive result. In a 2002 study,[345] these lower cutoff values increased the detection rate for methamphetamine by 48% compared with current cutoff values. Moreover, the highest detection rate for methamphetamine was achieved by use of the 250 ng/mL cutoff with elimination of the amphetamine requirement. In the described procedure, periodate oxidation before derivatization destroys α-hydroxyamines and therefore eliminates possible false report of methamphetamine owing to their presence.[147]

Barbiturates

The barbiturates have a low therapeutic index and a relatively high abuse potential. Because of their rapid onset and short duration of action, the short- to intermediate-acting barbiturates are used as sedative-hypnotics (amobarbital, butabarbital, butalbital, pentobarbital, and secobarbital) and are those most commonly abused. The longer acting barbiturates (mephobarbital and phenobarbital), used primarily for their anticonvulsant properties, are rarely abused.

Pharmacological Response

Barbiturates suppress CNS neuronal activity and thus have sedative and hypnotic properties.[186] This CNS suppression is a result of barbiturate-enhanced activation of the inhibitory GABA-ergic neuronal system mediated by the neurotransmitter γ-aminobutyric acid (GABA).[86] Postsynatic $GABA_A$ receptors are multisubunit transmembrane Cl^- conductance channels, which when activated by GABA open to allow flow of Cl^- into the neuron, with subsequent hyperpolarization and inhibition of electrical transmission. At low dose, some barbiturates bind to the $GABA_A$ receptors and enhance their response to GABA. At a higher dose, barbiturate binding results in prolonged opening of the Cl^- channel, without the necessity for GABA binding. In addition, barbiturates suppress excitatory glutamate-responsive AMPA (alpha-amino-3-OH-4-isoxozole propionic acid) ion-gated receptor subtypes.

Because of their low therapeutic index and high potential for abuse, the barbiturates have largely been replaced by the safer benzodiazepines for sedative and hypnotic purposes. Nevertheless, they continue to be available for this purpose or in combination with other analgesic, antihypertensive, antiasthmatic, antispasmodic, or antidiuretic drugs. The combination of barbiturates, such as butalbital with analgesic preparations, is ironic. Not only do barbiturates lack analgesic properties, but at low doses they antagonize the effects of analgesics. Phenobarbital is effective as an anticonvulsant drug (see Chapter 33), and short- and ultrashort-acting barbiturates (Table 34-10) are used for IV anesthesia. Anesthetic doses of barbiturates, such as pentobarbital, are also used to reduce intracranial pressure from cerebral edema associated with head trauma, surgery, or cerebral ischemia.[295] For the induction of this therapeutic coma, sufficient pentobarbital is administered IV to achieve a serum pentobarbital concentration between about 20 and 50 μg/mL. Therefore appropriate analytical methods are necessary to monitor serum pentobarbital concentrations in these circumstances. Moreover, barbiturates continue to be subject to abuse and are a source of intentional or, less commonly, accidental drug intoxication. Measurement of the common barbiturates in serum or urine can aid in the diagnosis and management of barbiturate intoxication.

The general formula for barbiturates is given in Table 34-10. Any change in the constituents at position five that confers an increase in lipid solubility typically results in increased onset of action, decreased duration of action, and increased potency. Moreover an increase in hydrophobic properties also leads to more rapid and extensive hepatic metabolic clearance and thus to decreased urinary elimination of an unchanged drug.

The classification of barbiturates as "ultrashort-acting," "short-acting," "intermediate-acting," and "long-acting" refers to the duration of effect and not to the elimination half-life. The duration of action is determined by the rate of distribution into brain and subsequent redistribution to other tissues.[86]

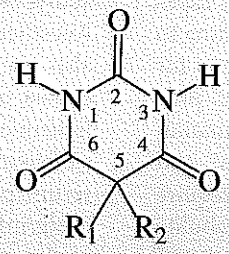
The major manifestations of barbiturate intoxication are CNS, cardiovascular, and respiratory depression. Severe intoxication results in coma, hypothermia, hypotension, and cardiorespiratory arrest.

Appropriate treatment for barbiturate intoxication includes general cardiopulmonary support and measures to prevent further drug absorption and to enhance elimination. Urine alkalinization may enhance the elimination of long-acting barbiturates (e.g., phenobarbital and barbital) but has little effect on intermediate-, short-, or ultrashort-acting barbiturates.

Once filtered by the glomerulus, a nonionized drug may be appreciably reabsorbed by the tubules. The goal of alkalinization is to maintain the urine pH between 7.5 and 8.5. In this pH range, a large fraction of an acidic drug will be ionized, and its elimination in urine will thus be enhanced.

For urine alkalinization to be effective, the drug should have low plasma protein binding, be appreciably eliminated in urine as an unchanged drug, and have a pK_a below 7.4. From an examination of Table 34-10, only phenobarbital (and other long-acting barbiturates [e.g., barbital]) fulfills these criteria. The primary route of elimination of ultrashort-, short-, and intermediate-acting barbiturates is by hepatic metabolism. Thus with the exception of aprobarbital, only small amounts are eliminated in urine as an unchanged drug. Moreover, at pH 8.0, only about 50% of a

TABLE 34-10 Characteristics of Barbiturates



Barbiturate	Duration of Action (hr)	Half-life (hr)	Therapeutic Concentration (μg/mL)	Toxic Concentration (μg/mL)	% Protein Bound	% Excreted Unchanged in Urine	pK_a	R_1	R_2
Ultrashort-Acting									
Thiopental*	0.5	6-7	1-5 (hypnotic) 7-130 (anesthesia)	>10	75-90	0.3	7.6	$-CH_2CH_3$	$-CHCH_2CH_2CH_3$ $\lvert$ CH_3
Short-Acting									
Butalbital	3-4	34-42	–	–	26	3	7.9	$-CH_2CH{=}CH_2$	$-CH_2CHCH_3$ $\lvert$ CH_3
Pentobarbital	3-4	15-30	1-5	>10	65	1	7.9	$-CH_2CH_3$	$-CHCH_2CH_2CH_3$ $\lvert$ CH_3
Secobarbital	3-4	19-34	1-2	>5	46-70	5	7.9	$-CH_2CH{=}CH_2$	$-CHCH_2CH_2CH_3$ $\lvert$ CH_3
Intermediate-Acting									
Amobarbital	6-8	8-42	1-5	>10	59	1-3	7.9	$-CH_2CH_3$	$-CH_2CH_2CHCH_3$ $\lvert$ CH_3
Aprobarbital	6-8	14-34	–	–	55-70	13-24	8.1	$-CH_2CH{=}CH_2$	$-CHCH_3$ $\lvert$ CH_3
Butabarbital	6-8	34-42	–	–	26	5-9	7.9	$-CH_2CH_3$	$-CHCH_2CH_3$ $\lvert$ CH_3
Long-Acting									
Phenobarbital	10-12	40-140	15-40	>65	45-50	25-33	7.2	$-CH_2CH_3$	$-C_6H_5$

Data from Baselt RC. Disposition of toxic drugs and chemicals in man. 7th ed. Foster City, CA: Biomedical Publications, 2004; Tietz NW, Ed. Clinical guide to laboratory tests. Philadelphia: WB Saunders Co, 1995; and Physician's desk reference. 56th ed. Montvale, NJ: Medical Economics, 2002.
*Oxygen at position 2 is replaced by sulfur.

short- or intermediate-acting barbiturate (pK_a 7.9 to 8.1) is ionized, whereas phenobarbital (pK_a 7.2) is about 85% ionized. Hemodialysis is effective in increasing the elimination of all barbiturates. However, it is more effective for long-acting barbiturates than for shorter-acting barbiturates because of differences in their lipid solubility and protein binding. Whereas urine alkalinization may increase the elimination of phenobarbital somewhat, it is considerably less effective than the process referred to as GI dialysis, which is mediated by the repeated oral administration of activated charcoal (multiple-dose activated charcoal, MDAC).[9,131]

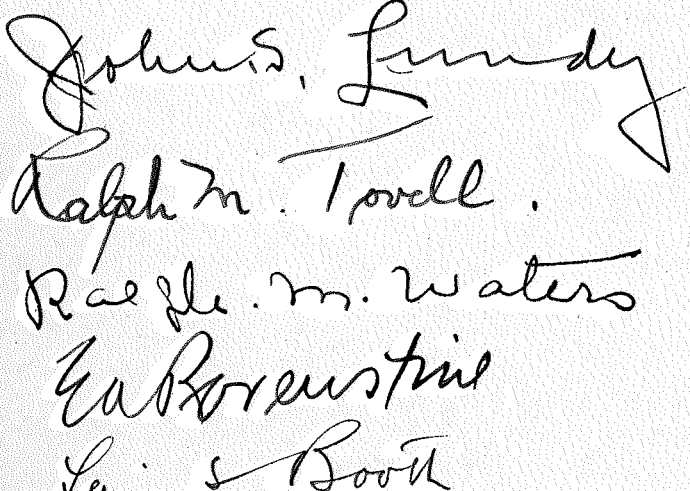
The rationale for MDAC therapy is that drug secreted into the GI tract (along with a previously unabsorbed drug) is bound by charcoal and thus cannot be reabsorbed. Drugs that are amenable to this process are ones that have a small volume of distribution, low protein binding, and a prolonged elimination $t_{1/2}$ following overdose. Currently, MDAC is recommended only for the treatment of serious phenobarbital, theophylline, carbamazepine, quinine, and dapsone overdose.[9]

The barbiturates undergo extensive hepatic metabolism in which the C5 substituents are transformed to alcohols, phenols, ketones, or carboxylic acids; these metabolites may be excreted in urine in part as glucuronide conjugates. For some barbiturates (amobarbital and phenobarbital), *N*-glucosylation is an additional important metabolic trans-

EXHIBIT 10

Fundamentals of ANESTHESIA

AN OUTLINE



Fundamentals

of

ANESTHESIA

AN OUTLINE

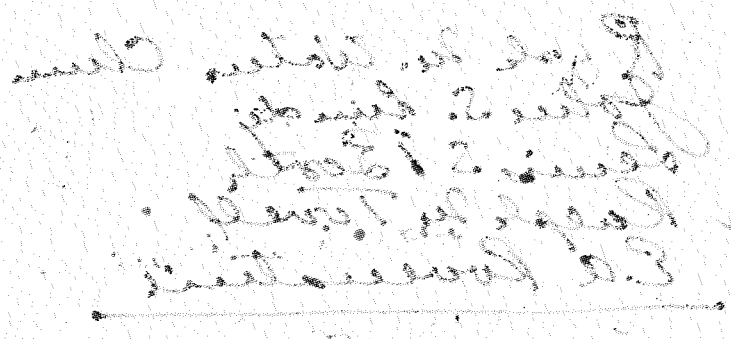
By

SUBCOMMITTEE ON ANESTHESIA OF
NATIONAL RESEARCH COUNCIL

1942

AMERICAN MEDICAL ASSOCIATION PRESS
CHICAGO

WO
200
F981
c.2



BARBITURIC ACID DERIVATIVES

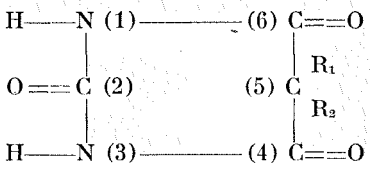


Fig. 20.—The structural formula of barbituric acid. Following is a comparison of certain barbituric acid derivatives, showing how they differ in chemical structure. The barbituric acid derivatives are listed in the order of decreasing duration of action. The numbers which head the columns in the table below refer to the numbers that designate position in the structural formula.

DURATION (Decrease ↓ Increase)			(5)		(1)	(2)
			(R_1	R_2)		
LONG	Phenobarbital (luminal)....	U.S.P.	ethyl	phenyl		
LONG	Barbital (medinal; veronal).	U.S.P.	ethyl	ethyl		
INTERMEDIATE	Dial.....	N.N.R.	allyl	allyl		
INTERMEDIATE	Ipral..... Calcium Sodium	N.N.R.	ethyl	isopropyl		
INTERMEDIATE	Alurate.....	N.N.R.	allyl	isopropyl		
INTERMEDIATE	Neonal.....	N.N.R.	ethyl	n-butyl		
SHORT	Nostal.....	N.N.R.	bromallyl	isopropyl		
SHORT	Amytal.....	N.N.R.	ethyl	isoamyl		
SHORT	Sandoptal.....	N.N.R.	allyl	isobutyl		
SHORT	Pernoston.....	N.N.R.	bromallyl	Betabutyl		
SHORT	Pentobarbital (Nembutal)...	N.N.R.	ethyl	l-methylbutyl		
SHORT	Phanodorn.....	N.N.R.	ethyl	cyclohexenyl		
SHORT	Ortal-sodium.....	N.N.R.	ethyl	n-hexyl		
ULTRA SHORT	Evipal.....		methyl	cyclohexenyl	methyl	
ULTRA SHORT	Pentothal sodium.....	N.N.R.	ethyl	l-methylbutyl		thio

IN THE SUPREME COURT
STATE OF SOUTH DAKOTA

CHARLES RUSSELL RHINES, Plaintiffs vs. SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, SECRETARY, SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, and DARIN YOUNG IN HIS CAPACITY AS WARDEN OF THE SOUTH DAKOTA STATE PENITENTIARY. Defendants.	App. No. _____ **THIS IS A CAPITAL CASE EXECUTION SET FOR BETWEEN NOVEMBER 3, 2019 AND NOVEMBER 9, 2019**

AFFIDAVIT OF DANIEL R. FRITZ

STATE OF SOUTH DAKOTA)
:SS
COUNTY OF MINNEHAHA)

Daniel R. Fritz, being first duly sworn on oath, states and alleges as follows:

1. I am an attorney for Plaintiff Charles Russell Rhines in the above-captioned case, and I have knowledge of the matters herein.
2. Attached hereto as Exhibit 1 is a true and correct copy of selected pages I received from the Office of the Attorney General that were attached to a letter from the Attorney General dated August 8, 2019.

Dated this 1st day of November 2019.

_____
Daniel R. Fritz

Subscribed and sworn to before me this 1st day of November, 2019.

(SEAL)

_____
Notary Public – South Dakota

STATE OF SOUTH DAKOTA

OFFICE OF ATTORNEY GENERAL
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Phone (605) 773-3215
Fax (605) 773-4106
TTY (605) 773-6585
www.state.sd.us/atg

MARTY J. JACKLEY
ATTORNEY GENERAL

CHARLES D. McGUIGAN
CHIEF DEPUTY ATTORNEY GENERAL

April 17, 2012

Domenic J. Veneziano
Director, Division of Import Operations and Policy
Department of Health and Human Services
Food & Drug Administration
12420 Parklawn Drive, Room 3109
Rockville, MD 20857

Dear Director Veneziano:

I would like to take this opportunity to address your recent letter to the state of South Dakota. Your letter seeks "to make arrangements for the return to the FDA of any foreign-manufactured thiopental in [its] possession" based on the recent decision of the federal court for the District of Columbia in *Beaty*.

Beaty is not controlling authority in South Dakota. Since the State of South Dakota was not a party to any court proceedings purporting to determine the legality of its importation of sodium thiopental, and since South Dakota is outside the *Beaty* court's jurisdiction, the State has not had an opportunity to be heard in its defense.

In any event, your concern regarding South Dakota's importation of sodium thiopental is misplaced. I am enclosing the FDA's March 25, 2011, letter authorizing South Dakota's importation of sodium thiopental stock and the accompanying Forms 236. These documents reflect that South Dakota complied with FDA importation processes.

Though South Dakota did not acquire its sodium thiopental from Sandoz or Dream Pharma, the manufacturer and supplier in question in the *Beaty* decision, it nevertheless independently tested its drug. South Dakota's drug tested positive for meeting the United States Pharmacopeia's sodium thiopental standards for safety and efficacy.

To my knowledge, no such testing was performed on the Sandoz/Dream Pharma sodium thiopental at issue in *Beaty*. Such testing may have alleviated the judge's concerns. Testing may have even deprived the *Beaty* plaintiffs of standing to bring their claims in the first place since it was the alleged (but unproven) inefficacy of imported sodium thiopental that allegedly placed them at an increased risk of pain during their executions.

If the FDA would like to independently test a sample of South Dakota's sodium thiopental, the State is certainly willing to accommodate; however, the State must retain legal custody of sufficient amounts of the substance to preserve chain of custody and to assure its safety and efficacy for future use if needed.

As you are aware, the FDA has historically taken the position that drugs "used for the purpose of state-authorized lethal injection clearly fall outside of FDA's explicit public health role." See FDA's December 29, 2010, Sodium Thiopental Statement. Courts have concurred. In a prisoner suit much like *Beaty*, the court in *Delaware v. Deputy*, 644 A.2d 411, 419 (Del. 1994), refused to construe "the FDCA's purpose to include the prevention of lawful executions of inmates."

The *Beaty* decision also conflicts with several federal court decisions. For example, in *Jones v. Hobbes*, 745 F.Supp.2d 886 (E.D.Ark. 2010), several inmates brought claims protesting imported sodium thiopental. The *Jones* court ruled that "Congress committed complete discretion to the executive branch to decide when and how to enforce [the FDCA] and authorized no private right of action for the enforcement of those statutes."

Again in *Durr v. Strickland*, 2010 WL 1610592 (S.D. Ohio), the court held that the FDCA was "not the proper mechanism for seeking injunctive relief from executions." See also *Irick v. Ray*, 2010 WL 4810653 (M.D.Tenn.); *Fruden v. Pillig*, --- F.Supp.2d ---, 2012 WL 292474 (D.Nev.); *West v. Ray*, 2010 WL

3825672 (M.D.Tenn.); *Bowling v. Haas*, 2010 WL 3825467 (E.D.Ky); *State v. Ellis*, 799 N.W.2d 267 (Neb. 2011).

The *Beaty* ruling is also incompatible with several United States Supreme Court decisions. For one, *Beaty* is incompatible with *Brewer v. Landrigan*, --- U.S. ---, 131 S.Ct. 445 (2010), because it speculates that imported sodium thiopental is ineffective. While it is true that the FDA, as a general rule, excludes some foreign drugs because of efficacy questions, such generality does not supply proof of a risk of harm when a particular drug is in question. *Landrigan*, 131 S.Ct. at 445. *Landrigan* prohibits speculating that a drug is unsafe or ineffective simply based on its foreign origins. Because the *Beaty* court had no evidence that the Sandoz/Dream Pharma sodium thiopental at issue was unsafe, the court could not simply speculate that the drug "increased [the plaintiffs'] risk of harm" without running afoul of *Landrigan*. *Beaty*, 2012 WL 1021048 at *4.

Beaty is incompatible with *Baze v. Rees*, 553 U.S. 35, 49, 128 S.Ct. 1520, 1531 (2008), because it creates a means to challenge drugs used in one's execution based simply on a "'relatively modest' increment of risk" of harm, whereas *Baze* requires that no method of execution may be challenged unless an inmate alleges that he faces a "substantial risk" of "serious pain." *Compare Beaty*, 2012 WL 1021048 at *4 *with Baze*, 553 U.S. at 49, 128 S.Ct. at 1531. *Beaty's* relaxed standards are incompatible with *Baze*.

Beaty is also incompatible with the *Heckler* decision because it permits inmates to bring actions to "restrain violations." *Heckler v. Chaney*, 470 U.S. 821, 105 S.Ct. 1649 (1985). The FDCA expressly reserves such authority to suits brought by the government. 21 U.S.C. § 337. According to *Heckler*, whether to bring suit under 21 U.S.C. § 337 is vested solely in the FDA's discretion. *Beaty* fails to address, let alone explain, how the federal APA trumps Congress' express will that actions to "restrain [FDCA] violations" be brought only in the name of the government.

The foregoing cases firmly place the *Beaty* decision in a distinct and singular minority of one. Yet, the FDA would impose the *Beaty* decision on South Dakota when higher courts have approved the FDA's enforcement and importation practices?

The United States Supreme Court has made it abundantly clear that "the decision that capital punishment may be the appropriate sanction in extreme cases is an expression of the community's belief that certain crimes are themselves so grievous an affront to humanity that the only adequate response may be the penalty of death." *See Gregg v. Georgia*, 428 U.S. 153, 184 (U.S. 1976).

One such grievous offender is Donald Eugene Moeller, who raped, sodomized, and stabbed to death a 9 year-old little girl 22 years ago. Two separate juries of South Dakota citizens sentenced Moeller to death for his crimes. Twenty-two years for a victim's family to await justice is disturbing, particularly in light of Congress' clear direction to the Department of Justice in the 2006 AEDPA amendments to establish the rules for state death penalty certification procedures, a responsibility that appears to have gone unfulfilled.

Furthermore, were the FDA to initiate forfeiture proceedings against departments of corrections, it would be selectively enforcing the law because hundreds of hospitals are in possession of imported sodium thiopental. To evenhandedly enforce the law, the FDA must bring forfeiture proceedings against anyone possessing imported sodium thiopental, hospitals included.

As the American Society of Anesthesiologists has informed the FDA, death penalty abolitionists have, through such tactics as the *Beaty* lawsuit, attacked the sodium thiopental supply chain "to the point that the safety of American patients is now in jeopardy." See ASA January 7, 2011, letter, copy attached. In short, if the FDCA mandated you to interdict and confiscate all imported sodium thiopental, innocent patients who require sodium thiopental would be placed at risk.

Finally, there is presently no urgent need to confiscate South Dakota's sodium thiopental justifying an *ex parte* proceeding of any nature because no executions using sodium thiopental are presently scheduled. South Dakota is not willing to forfeit State property without proper notice and opportunity to be heard before a South Dakota court, and before an appellate court if necessary, unless and until we have a satisfactory replacement inventory.

In conclusion, my office will gladly provide you with any information you request regarding the source, purity, or efficacy of the State's sodium thiopental inventory. We will further agree to notify you in the unlikely event that the State would need to utilize its sodium thiopental inventory for an execution before it expires in September of 2012. However, the State must keep its sodium thiopental inventory in its current temperature- and humidity-controlled environment to preserve State property.

Please feel free to contact either myself or Assistant Attorney General Paul Swedlund in my office to discuss how we may address any further concerns that you may have.

Sincerely,

Marty J. Jackley
ATTORNEY GENERAL

MJJ/lde
Enc.

cc: South Dakota Governor Dennis Daugaard
United States Attorney Brendan Johnson
Secretary Dennis Kaemingk, Department of Corrections
Warden Douglas Weber

ERM A.12(B) Capital Punishment Final Days Procedures

A. GENERAL

1. The punishment of death shall be inflicted within the walls of a building at the State Penitentiary. SDCL §23A-27A-32, 23A-27A-33. The South Dakota State Penitentiary (hereinafter SDSP) shall provide all proper equipment and appliances for the infliction of such punishment. SDCL §23A-27A-32, 23A-27A-33. The necessary setup includes a room, hereinafter referred to as the "Chemical Room," equipped with a one-way mirror that allows occupants to observe the Execution Chamber and the inmate after he is strapped to a gurney in the execution chamber.

2. Death shall be inflicted by administering intravenous injections of a substance or substances in a lethal quantity. The substance or substances and manner of execution shall be and remain consistent with state and federal constitutional requirements as identified herein.

3. The Warden or designee is responsible for having the chemicals for lethal injection and any other necessary items for use on the scheduled date of execution. Under the direction of the Warden or designee two complete sets of the substance or substances used to conduct an execution shall be kept in separate secure locations.

4. The Warden shall arrange for the attendance of South Dakota Department of Corrections (hereinafter SDDOC) staff, law enforcement officers and other persons he/she deems necessary and proper to perform the functions involved in conducting a scheduled execution. This shall include all those required by South Dakota statute to attend.

5. If at any time during the execution process the Governor stays, pardons, or commutes the sentence of the condemned person or if a court of competent jurisdiction issues a stay after an execution has commenced, the execution team shall stop the execution. Ambulance staff equipped with advanced life support capabilities, including a heart defibrillator and such supplies and equipment as would be needed to attempt to revive an individual who has been injected with one or more of the substances identified in Section D, shall be on standby at the SDSP.

B. QUALIFICATIONS OF EXECUTION TEAM MEMBERS

1. An execution carried out by intravenous injection shall be performed by person(s) trained to perform venipuncture and to administer intravenous injections. The person(s) shall be selected by the Warden and approved by the Secretary of Corrections. SDCL 23A-27A-32.

2. The person(s) selected by the Warden to mix the drugs and prepare the syringes shall demonstrate proficiency through relevant training and two years' experience in the preparation of syringes for intravenous administration and mixing and preparation of drugs for such administration.

3. The person(s) selected by the Warden to insert the intravenous needles into the veins of the prisoner and connect, monitor, and maintain intravenous lines shall be certified or licensed and have at least two (2) years' professional experience as one of the following: medical or osteopathic physician, physician assistant, registered nurse, certified medical assistant, licensed practical nurse, phlebotomist, paramedic, emergency medical technician, or military corpsman.

4. The person(s) selected by the Warden to administer the injections shall demonstrate proficiency through relevant training and two years' experience in the administration of drugs by intravenous injection.

C. PREPARATION OF CHEMICALS

1. The following identifies the contents of each syringe used in the course of the 3-Drug or 2-Drug executions.

SYRINGE LABELED/MARKED	CONTENTS
#1	Sodium Thiopental (1.5 grams in a 60 cc solution) or Pentobarbital (2.5 grams in a 50 cc solution)
#2	Sodium Thiopental (1.5 grams in a 60 cc solution provided Syringe #1 is also 1.5 grams of Sodium Thiopental in a 60 cc solution) or Pentobarbital (2.5 grams in a 50 cc solution provided Syringe #1 is also 2.5 grams of Pentobarbital in a 50 cc solution)
#3	Normal Saline (25 ml)
#4	Pancuronium Bromide (100 mg of 2 mg/ml concentration in a 50 cc solution)
#5	Normal Saline (25 ml)
#6	Potassium Chloride (120 mEq. in a 60 cc solution)
#7	Potassium Chloride (120 mEq. in a 60 cc solution)
Backup syringes (if needed):	
#8	Normal Saline (25 ml)
#9	Sodium Thiopental (1.5 grams in a 60 cc solution) or Pentobarbital (2.5 grams in a 50 cc solution)
#10	Sodium Thiopental (1.5 grams in a 60 cc solution provided Syringe #1 is also 1.5 grams of Sodium Thiopental in a 60 cc solution) or Pentobarbital (2.5 grams in a 50 cc solution provided Syringe #1 is also 2.5 grams of Pentobarbital in a 50 cc solution)
#11	Normal Saline (25 ml)
#12	Pancuronium Bromide (100 mg of 2 mg/ml concentration in a 50 cc solution)
#13	Normal Saline (25 ml)
#14	Potassium Chloride (120 mEq. in a 60 cc solution)
#15	Potassium Chloride (120 mEq. in a 60 cc solution)

2. The following identifies the contents of each syringe used in the course of the 1-Drug execution using Sodium Thiopental.

SYRINGE LABELED/MARKED	CONTENTS
#1	Sodium Thiopental (1.25 grams in a 50 cc solution)
#2	Sodium Thiopental (1.25 grams in a 50 cc solution)
#3	Sodium Thiopental (1.25 grams in a 50 cc solution)
#4	Sodium Thiopental (1.25 grams in a 50 cc solution)
#5	Normal Saline (25 ml)
Backup syringes (if needed):	
#6	Sodium Thiopental (1.25 grams in a 50 cc solution)
#7	Sodium Thiopental (1.25 grams in a 50 cc solution)
#8	Sodium Thiopental (1.25 grams in a 50 cc solution)
#9	Sodium Thiopental (1.25 grams in a 50 cc solution)

3. The following identifies the contents of each syringe used in the course of the 1-Drug execution using Pentobarbital.

SYRINGE LABELED/MARKED	CONTENTS
#1	Pentobarbital (2.5 grams in a 50 cc solution)
#2	Pentobarbital (2.5 grams in a 50 cc solution)
#3	Normal Saline (25 ml)
Backup syringes (if needed):	
#4	Pentobarbital (2.5 grams in a 50 cc solution)
#5	Pentobarbital (2.5 grams in a 50 cc solution)

4. Any person sentenced to death prior to July 1, 2007, may choose to be executed by the 3- or 1-Drug protocol set forth in this document, provided the SDDOC possesses the necessary substance or substances for the method chosen at the time scheduled for the inmate's execution, or in the manner provided by South Dakota law at the time of the person's conviction (2-Drug protocol set forth in this document). Any person sentenced to death prior to July 1, 2007, shall be executed using the 3- or 1-Drug protocol provided in this document using the substance or substances in the SDDOC's possession unless the inmate requests in writing to the Warden not less than seven (7) days prior to the scheduled execution date that the inmate wishes to be executed by the 2-Drug protocol set forth herein in accordance with South Dakota law as it existed prior to July 1, 2007.

5. For any inmate sentenced to death after July 1, 2007, the Warden shall elect the method of execution from one of the foregoing 3-, 2-, or 1-Drug methods for which the SDDOC possesses the necessary substance or substances at the time scheduled for the inmate's execution. The Warden will give consideration to, and make the effort to accommodate, the inmate's method of preference, provided the inmate selects 3-, 2-, or 1-Drug methods for which the SDDOC possesses the necessary substance or substances at the time scheduled for the inmate's execution.

D. PREPARATION FOR EXECUTION

1. The SDDOC staff selected to participate in the execution shall drill at least weekly for six to eight weeks prior to the scheduled date of execution. The warden shall schedule additional drills the week of the scheduled execution.

2. Not less than seven (7) days prior to the execution week announced in the Warrant of Death Sentence and Execution, a physician or other medical professional qualified to assess venous access shall examine the inmate. A written report shall be prepared describing the inmate's physical condition and any medical condition of the inmate that may lead to potential problems establishing an IV site. This report, along with a copy of the lethal injection protocol, shall be provided to the executioner(s) for review and consideration no later than one day before the scheduled date of execution.

3. All substances will be mixed or prepared as necessary no more than 8 hours prior to the execution and shall thereafter be maintained in accordance with manufacturers' instructions in temperatures not in excess of 22°C/71.6°F, or such temperature specifically called for by the manufacturer, until ready for use. All substances will be mixed or prepared in bright, un-dimmed light.

4. To provide notification of any last minute stay or appeal, arrangements shall be made to provide direct telephone access between the Warden, the chemical room, the Governor's office, the Chief Justice of the South Dakota Supreme Court or designee, and the Attorney General's office. The Governor, the Chief Justice, and Attorney General or their designees shall be provided with phone numbers to the Warden's office, the chemical room, and multiple backup phone numbers (such as personal cell phone numbers of the Warden and Deputy Warden). In addition, the Warden and Deputy Warden shall be equipped with SDSP issued radios.

5. On the date of the scheduled execution, the prisoner shall be escorted to the execution chamber and strapped to the gurney by the Tie Down Team.

6. On the date of execution, the chemical room shall be kept clear of all persons except for the Executioners, the Warden, and any SDDOC staff selected by the Warden to assist with the execution of the sentence of death.

7. The Tie Down Team Leader shall verify that all restraints are secure and so advise the Warden, at which time the Tie Down Team shall move to the hallway and stand by.

8. The IV team shall enter the chamber and establish two independent IV lines to the inmate's veins. The IV team will establish IV lines only in peripheral veins located in the inmate's arms, hands, legs, or feet, preferably one in each arm. In the event the IV team cannot establish peripheral vein lines, the IV team will establish central vein lines by percutaneous methods, but only if the IV team member establishing the central vein line can demonstrate current training, credentialing, and proficiency in establishing IV lines in central veins by percutaneous methods. The IV team will establish and secure the IV lines in such a way as to leave them visible for monitoring.

9. The gurney shall at all times be placed so that the inmate's head and face are visible to the Warden and to those in the chemical room. If the inmate desires, and if it will not interfere with the efficacy of the substance or substances being used for the execution, the inmate's head will be propped up by a firm, foam wedge-shaped cushion to better permit IV team members in the chemical room to see the inmate's face during the procedure.

10. Every effort will be extended to ensure that no unnecessary pain or suffering is inflicted on the inmate.

11. If the IV team cannot secure one (1) or more sites within one (1) hour, the Governor's Office shall be contacted by the Secretary and a request shall be made that the execution be scheduled for a later date during the week of the execution, as set forth in the Warrant of Death Sentence and Execution.

12. The IV team shall start a saline flow and a sufficient quantity of saline solution shall be injected to confirm that the IV lines have been properly inserted and are not obstructed. IV team members will continue to monitor IV functioning from within the chemical room.

E. INJECTION PROCEDURES—3 DRUG PROTOCOL

1. The Warden shall make a final check with those authorities cited in Section D(4) to ensure no last minute appeals or stays have been filed.

2. Upon completion of preparation for execution (D. above), the Warden or designee shall order that blinds in front of witness rooms be opened and that the microphone in front of the inmate's mouth be turned on. The Warden or designee shall ask the prisoner if he/she has any last words to say. Upon completion of the prisoner's last words, or in the discretion of the Warden, the Warden shall order that the execution proceed.

3. Upon the Warden's order to proceed, a designated team member will begin a rapid flow of lethal chemicals in the following order.

4. Syringe #1

5. Syringe #2

6. Syringe #3

7. If it appears to the Warden that the prisoner is not unconscious within three (3) minutes after administration of the sodium thiopental or pentobarbital, the Warden shall order the flow of chemicals ceased into the primary site. The backup IV shall be used with a new flow of sodium thiopental or pentobarbital.

8. The Warden and IV team shall assess and monitor the inmate's lack of consciousness by using all steps in a graded consciousness check – a sequence of increasingly strong stimulations to assess consciousness – starting with checking for movement, eyelash reflex, response to verbal commands and culminating in a physical stimulation that would be painful if the inmate were awake. If possible, a currently certified EMT or other medical professional qualified in assessing consciousness, whose identity may, at the Warden's discretion, remain confidential, will be in the execution chamber with the Warden to assist the Warden in determining that the inmate is unconscious following the injection of the sodium thiopental or pentobarbital and prior to the administration of the pancuronium bromide and potassium chloride.

9. The Warden and IV team shall continuously monitor the IV and infusion sites. If the inmate appears unconscious three (3) minutes after the initial or backup flow of sodium thiopental or pentobarbital is complete, the executioner(s) shall commence the rapid flow of the remaining chemicals as follows.

10. Syringe #4

11. Syringe #5

12. Syringe #6

13. Syringe #7

14. Ten (10) minutes after the third drug is administered, the person(s) responsible for pronouncing death shall examine the inmate in order to confirm death by checking the inmate's heartbeat, breathing, pulse and pupils. If the inmate's death is confirmed, the person(s) shall inform the Warden. If that person(s) is unable to confirm the inmate's death, the Warden shall order injection of the remaining backup syringes.

15. Once the person(s) responsible for pronouncing death has confirmed the inmate's death, the Warden shall announce "At approximately _____ a.m./p.m. the execution of [inmate's name] was carried out in accordance with the laws of the State of South Dakota" or a similar statement to that effect.

16. The microphone shall be turnned off and the curtains/blinds shall be drawn.

17. The witnesses shall be escorted out of the witness rooms and shall sign the Certificate of Execution as required by South Dakota law.

F. INJECTION PROCEDURES—2 DRUG PROTOCOL

1. The Warden shall make a final check with those authorities cited in Section D(4) to ensure no last minute appeals or stays have been filed.

2. Upon completion of preparation for execution (D. above), the Warden or designee shall order that blinds in front of witness rooms be opened and that the microphone in front of the inmate's mouth be turned on. The Warden or designee shall ask the prisoner if he/she has any last words to say. Upon completion of the prisoner's last words, or in the discretion of the Warden, the Warden shall order that the execution proceed.

3. Upon the Warden's order to proceed, a designated team member will begin a rapid flow of lethal chemicals in the following order.

4. Syringe #1

5. Syringe #2

6. Syringe #3

7. If it appears to the Warden that the prisoner is not unconscious within three (3) minutes after administration of the sodium thiopental or pentobarbital the Warden shall order the flow of chemicals ceased into the primary site. The backup IV shall be used with a new flow of sodium thiopental or pentobarbital.

8. The Warden and IV team shall assess and monitor the inmate's lack of consciousness by using all steps in a graded consciousness check – a sequence of increasingly strong stimulations to assess consciousness – starting with checking for movement, eyelash reflex, response to verbal commands and culminating in a physical stimulation that would be painful if the inmate were awake. If possible, a currently certified EMT or other medical professional qualified in assessing consciousness, whose identity may, at the Warden's discretion, remain confidential, will be in the execution chamber with the Warden to assist the Warden in determining that the inmate is unconscious following the injection of the sodium thiopental or pentobarbital and prior to the administration of the pancuronium bromide and potassium chloride.

9. The Warden and IV team shall continuously monitor the IV and infusion sites. If the inmate appears unconscious three (3) minutes after the initial or backup flow of sodium thiopental or pentobarbital is complete, the executioner(s) shall commence the rapid flow of the remaining chemicals as follows.

10. Syringe #4

11. Syringe #5

12. Ten (10) minutes after the second drug is administered, the person(s) responsible for pronouncing death shall examine the inmate. The person(s) responsible for pronouncing death shall enter the chamber and confirm death by checking the inmate's heartbeat, breathing, pulse and pupils. If that person(s) is not able to pronounce death, the Warden shall order injection of the remaining backup syringes.

13. Once the person(s) responsible for pronouncing death has confirmed the inmate's death, the Warden shall announce "At approximately _____ a.m./p.m. the execution of [inmate's name] was carried out in accordance with the laws of the State of South Dakota" or a similar statement to that effect.

14. The microphone shall be turned off and the curtains/blinds shall be drawn.

15. The witnesses shall be escorted out of the witness rooms and shall sign the Certificate of Execution as required by South Dakota law.

G. INJECTION PROCEDURES – 1 DRUG PROTOCOL (Sodium Thiopental)

1. The Warden shall make a final check with those authorities cited in Section D(4) to ensure no last minute appeals or stays have been filed.

2. Upon completion of preparation for execution (D. above), the Warden or designee shall order that blinds in front of witness rooms be opened and that the microphone in front of the inmate's mouth be turned on. The Warden or designee shall ask the prisoner if he/she has any last words to say. Upon completion of the prisoner's last words, or in the discretion of the Warden, the Warden shall order that the execution proceed.

3. Upon the Warden's order to proceed, a designated team member will begin a rapid flow of lethal chemicals in the following order.

4. Syringe #1

5. Syringe #2

6. Syringe #3

7. Syringe #4

8. Syringe #5

9. Ten (10) minutes after the drug is administered, the person(s) responsible for pronouncing death shall examine the inmate. The person(s) responsible for pronouncing death shall enter the chamber and confirm death by checking the inmate's heartbeat, breathing, pulse and pupils. If that person(s) is not able to pronounce death, the Warden shall order a second set of chemicals to be administered in the following order.

10. Syringe #6

11. Syringe #7

12. Syringe #8

13. Syringe #9

14. Ten (10) minutes after the second round of the drug is administered, the person(s) responsible for pronouncing death shall again examine the inmate. The person(s) responsible for pronouncing death shall enter the chamber and confirm death by checking the inmate's heartbeat, breathing, pulse and pupils.

15. Once the person(s) responsible for pronouncing death has confirmed the inmate's death, the Warden shall announce "At approximately _____ a.m./p.m. the execution of [inmate's name] was carried out in accordance with the laws of the State of South Dakota" or a similar statement to that effect.

16. The microphone shall be turned off and the curtains/blinds shall be drawn.

The witnesses shall be escorted out of the witness rooms and shall sign the Certificate of Execution as required by South Dakota law.

H. INJECTION PROCEDURES – 1 DRUG PROTOCOL (Pentobarbital)

1. The Warden shall make a final check with those authorities cited in Section D(4) to ensure no last minute appeals or stays have been filed.

2. Upon completion of preparation for execution (D. above), the Warden or designee shall order that blinds in front of witness rooms be opened and that the microphone in front of the inmate's mouth be turned on. The Warden or designee shall ask the prisoner if he/she has any last words to say. Upon completion of the prisoner's last words, or in the discretion of the Warden, the Warden shall order that the execution proceed.

3. Upon the Warden's order to proceed, a designated team member will begin a rapid flow of lethal chemicals in the following order.

4. Syringe #1

5. Syringe #2

6. Syringe #3

7. Ten (10) minutes after the drug is administered, the person(s) responsible for pronouncing death shall examine the inmate. The person(s) responsible for pronouncing death shall enter the chamber and confirm death by checking the inmate's heartbeat, breathing, pulse and pupils. If that person(s) is not able to pronounce death, the Warden shall order a second set of chemicals to be administered in the following order.

8. Syringe #4

9. Syringe #5

10. Ten (10) minutes after the second round of the drug is administered, the person(s) responsible for pronouncing death shall again examine the inmate. The person(s) responsible for pronouncing death shall enter the chamber and confirm death by checking the inmate's heartbeat, breathing, pulse and pupils.

11. Once the person(s) responsible for pronouncing death has confirmed the inmate's death, the Warden shall announce "At approximately _____ a.m./p.m. the execution of [inmate's name] was carried out in accordance with the laws of the State of South Dakota" or a similar statement to that effect.

12. The microphone shall be turned off and the curtains/blinds shall be drawn.

The witnesses shall be escorted out of the witness rooms and shall sign the Certificate of Execution as required by South Dakota law.

Douglas L. Weber	October 13, 2011
Douglas L. Weber, Chief Warden and Director of Prison Operations	Date

IN THE SUPREME COURT
STATE OF SOUTH DAKOTA

CHARLES RUSSELL RHINES,

Plaintiff/Appellant,

v.

SOUTH DAKOTA DEPARTMENT OF CORRECTIONS, MIKE LEIDHOLT, Secretary, South Dakota Department Of Corrections, and **DARIN YOUNG,** Warden, South Dakota State Penitentiary,

Defendants/Appellees.

No. 29166

RESPONSE TO MOTION FOR STAY OF EXECUTION

Appellee Darin Young, by and through his counsel, Paul S. Swedlund, hereby files this response to appellant Charles Russell Rhines' motion for a stay of execution.

1. Charles Russell Rhines killed Donnivan Schaeffer in 1992 and was sentenced to death in 1993. Donnivan's parents and brother have awaited justice for their son and sibling for 27 years.
2. This court affirmed Rhines' conviction in 1996. *State v. Rhines,* 548 N.W.2d 415 (1996).
3. The United States Supreme Court denied Rhines' petition for a writ of *certiorari* to review this court's affirmance. *Rhines v. South Dakota,* 117 S.Ct. 522 (1996).

4. Rhines filed his first state *habeas corpus* petition in 1996. The state court denied the petition in 1998. This court affirmed the trial court's denial in 2000. *Rhines v. Weber,* 2000 SD 19, 608 N.W.2d 303.

5. Rhines filed a federal *habeas corpus* petition in 2000. As a result of that proceeding, the United States Supreme Court ruled that federal review of Rhines' first state *habeas corpus* claims would be "stayed and abeyed" while he exhausted a new set of claims in a second state *habeas corpus* proceeding. *Rhines v. Weber,* 544 U.S. 269 (2005).

6. Rhines filed an amended second state *habeas corpus* petition in 2005. The state court entered summary judgment denying the petition in 2012.

7. In concert with his second state *habeas corpus* petition, Rhines also challenged the constitutionality of the state's execution protocol. After a trial in which the court took testimony and evidence from both parties, the state court entered judgment in favor of the state.

8. This court affirmed the denial of Rhines' second state *habeas corpus* petition and the judgment rejecting his method of execution challenge. *Rhines v. Weber,* #26673 (S.D. 2013).

9. The United States Supreme Court denied Rhines' petition for a writ of *certiorari* to review this court's decision. *Rhines v. Weber,* 134 S.Ct. 1002 (2014).

10. Rhines reactivated his pending federal *habeas corpus* petition for review of the first and second state *habeas corpus* decisions. Rhines also moved to amend his federal petition to bring new claims of alleged neurological deficits per *Martinez v. Ryan,* 566 U.S. 1 (2012). The district court denied the petition and the *Martinez* motion in 2016. *Rhines v. Young,* 2016 WL 615421 (D.Ct.S.D.)

11. Rhines filed an original action in this court to set aside his sentence on the grounds of alleged jury bias per *Pena-Rodriguez v. Colorado,* 137 S.Ct. 855 (2017). This court rejected the application. *Rhines v. South Dakota,* #28444 (S.D. 2018).

12. The United States Supreme Court denied Rhines' petition for a writ of *certiorari* to review this court's rejection of his *Pena-Rodriguez* application. *Rhines v. South Dakota,* 138 S.Ct. 2660 (2018).

13. Rhines appealed the district court's denials of his *habeas corpus* petition and *Martinez* motion. Rhines also asked the circuit court for a certificate to appeal the district court's denial of a motion to amend his petition to bring the same *Pena-Rodriguez* claim rejected by this court. The circuit court affirmed the district court's judgment in the *habeas corpus* case and denied Rhines' application for a certificate to appeal the *Pena-Rodriguez* issue. *Rhines v. Young,* 899 F.3d 482 (8th Cir. 2018). Rhines petitioned the United States Supreme Court for review of these rulings.

14. While Rhines' petitions for *certiorari* were pending, he filed a petition for clemency with the South Dakota Board of Pardons and Paroles. The board rejected Rhines' petition.

15. On April 15, 2019, the United States Supreme Court denied Rhines' petitions to appeal the circuit court's rulings affirming the district court's denial of *habeas corpus* relief and denying Rhines a certificate to appeal his *Pena-Rodriguez* claim. *Rhines v. Young*, 2019 WL 826425; *Rhines v. Young*, 2019 WL 826426.

16. With the United States Supreme Court's rejection of Rhines' latest petitions, Rhines' conviction and sentence became final. It is time for Rhines to serve his sentence.

17. Rhines also appealed the denial of a motion filed in the district court (two years after it denied his *habeas corpus* petition) seeking an order compelling the South Dakota Department of Corrections to allow new experts to examine Rhines in the penitentiary to develop evidence of a previously undetected neurological deficit to bolster a second clemency petition. That case was argued to the federal appellate court on September 26, 2019. The court dismissed the appeal on October 25, 2019.

18. In September of 2018, Rhines filed a complaint for declaratory and injunctive relief in circuit court claiming that the state's execution protocol was invalid because it had not been promulgated pursuant to

the state APA. The circuit court denied relief. This court affirmed the circuit court on October 25, 2019. *Rhines v. S.D. Dept. of Corrections,* 2019 SD 59.

19. On October 22, 2019, Rhines filed a complaint for declaratory and injunctive relief claiming that the state's intention to use pentobarbital as the barbiturate in his execution violated SDCL 23A-27A-32 as codified on the date of his conviction. Rhines filed a motion for a preliminary injunction and stay of his execution. The circuit court held an expedited evidentiary hearing on the motion on October 29, 2019. It issued its ruling on October 31, 2019, denying the motion on the ground that Rhines' claim was barred on principles of *res judicata* and equity because could have brought his claims much earlier. Rhines now appeals.

20. Rhines' appeal in the above captioned matter is without merit. No stay is warranted because Rhines is not likely to succeed in overturning Judge Sogn's detailed and well-reasoned opinion.

21. Recently, in *Bucklew v. Precythe,* 139 S.Ct. 1112, 1134 (2019), the United States Supreme Court condemned the practice of reflexively entering stays of execution. Stays of execution "should be the extreme exception, not the norm." *Bucklew,* 139 S.Ct. at 1134. Per *Bucklew,* no stay should be entered for lawsuits that attack settled precedent, which rest on speculative theories, which lack sufficient substance to survive summary judgment and which could have been brought sooner. *Bucklew,* 139 S.Ct. at 1134.

22. *Bucklew* reaffirmed the longstanding principle that the mere fact that an inmate has filed some kind of claim – even a potentially meritorious one – "does not warrant the entry of a stay as a matter of right." *Nelson v. Campbell,* 541 U.S. 637, 649 (2004). *McFarland v. Scott,* 512 U.S. 849, 858 (filing for post-conviction relief "by no means grants capital defendants a right to an automatic stay of execution"). "[I]f a dilatory capital defendant inexcusably ignores [the] opportunity [to bring a claim earlier] and flouts the available processes, a . . . court presumably would not abuse its discretion in denying a stay of execution." *McFarland,* 512 U.S. at 858.

23. "Given the state's significant interest in enforcing its criminal judgments, there is a strong equitable presumption against the grant of a stay where a claim could have been brought at such a time as to allow consideration of the merits without requiring entry of a stay." *Nelson,* 541 U.S. at 650. "[A] plaintiff cannot wait until a stay must be granted to enable him to develop facts and take the case to trial – not when there is no satisfactory explanation for the delay." *Sepulvado v. Jindal,* 729 F.3d 413, 420 (5th Cir. 2013), quoting *Reese v. Livingston,* 453 F.3d 289, 291 (5th Cir. 2006). A prisoner is not entitled to a stay in order to conduct discovery to make out a claim. *Beaty v. Brewer,* 649 F.3d 1071, 1075 (9th Cir. 2011).

24. "[A] stay of execution is an equitable remedy. It is not available as a matter of right, and equity must be sensitive to the state's strong interest in enforcing its criminal judgments." *Hill v. McDonough,* 547 U.S. 573, 584 (2006). A "preliminary injunction [for a stay of execution is] *not* granted unless the movant, by a clear showing, carries the burden of persuasion." *Hill,* 547 U.S. at 584.

25. "[L]ike other stay applicants, [Rhines] . . . must satisfy all of the requirements for a stay including a showing of a significant possibility of success on the merits." *Hill,* 547 U.S. at 584.

26. No stay is warranted by the above-captioned appeal. Rhines was extremely dilatory in bringing his challenge to the protocol's conformity to the statute. As described in Judge Sogn's ruling, the factual basis for Rhines' claim was known to him when the state served him with the current protocol on October 24, 2011. He could have challenged this aspect of the protocol as early as 2011 when he challenged the constitutionality of the method of execution in his second state *habeas corpus* proceeding before Judge Trimble in 2011-12. He did not. Instead, Rhines waited until 11 days before the week scheduled for his execution to bring the claim. Rhines' failure to act sooner demonstrates how the claim and this appeal were a calculated "tool to interpose unjustified delay." *Bucklew,* 139 S.Ct. at 1134.

27. Rhines is now well beyond his due process. His objections to his conviction and sentence and method of execution have been reviewed five times by this court, five by the United States Supreme Court, twice by the federal circuit court of appeals and once by the federal district court. In December of 2018, he petitioned for and was denied clemency by the South Dakota Board of Pardons and Paroles. Having exhausted his *due* process, Rhines has turned to extraneous processes "to interpose unjustified delay" in the imposition of his sentence. *Bucklew*, 139 S.Ct. at 1134.

CONCLUSION

Twenty-seven years ago Rhines walked young Donnivan Schaeffer to his death in a dingy storeroom of a strip-mall donut shop, where Rhines sat Donnivan on the floor, locked his head between his knees and pounded a hunting knife into Donnivan's brain stem with the flat of his palm. It is time for Rhines to take the same walk that he blithely took Donnivan on 27 years ago.

The state's method of execution has been vetted at the highest levels of the executive and judicial branches of state government. It has been followed in four prior executions (Page, Robert, Moeller, Berget) without any report of mishap or maladministration. Rhines strategically waited until the eve of his execution to challenge the barbiturate the state told him it intended to use 8 years ago.

A cursory review of Judge Sogn's opinion reveals that Rhines' appeal is not sufficiently meritorious to warrant a stay. Per *Bucklew,* this court "'can and should' protect" the state's interest in carrying out Rhine's capital sentence "from 'undue interference'" by denying a stay. *Bucklew,* 139 S.Ct. at 1134.

Dated this 1st day of November 2019.

Respectfully submitted,

JASON R. RAVNSBORG
ATTORNEY GENERAL
STATE OF SOUTH DAKOTA

Paul S. Swedlund
Paul S. Swedlund
Assistant Attorney General
State of South Dakota
1302 East Highway 14, Suite 1
Pierre, SD 57501
605-773-3215
paul.swedlund@state.sd.us

CERTIFICATE OF SERVICE

Appellees, by and through their counsel, Paul S. Swedlund, hereby certify that on November 1, 2019, a copy of the foregoing response to motion for stay was served on appellant's counsel, Daniel R. Fritz and Timothy R. Rahn, via e-mail to fritzd@ballardspahr.com and rahnt@ballardspahr.com and Caroline Heller at hellerc@gtlaw.com.

Paul S. Swedlund
Paul S. Swedlund
Assistant Attorney General